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PAPER TRADE JOURNAL

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PAPER

Vol. XC, No. 12 — Thursday, March 20, 1930

Paper Production Shows Big Increase

According to Identical Mill Reports to the American Paper and Pulp Association from Members and Cooperating Organizations Gain of 16 Per Cent for January as Compared with December Is Indicated—Pulp Production, However, for January As Compared With December Shows A Decrease of 2 Per Cent.

According to identical mill reports to the American Paper and Pulp Association from members and cooperating organizations, paper production in January showed an increase of 16 per cent over December, 1929, and a decrease of 1 per cent under January, 1929.

The Production in January

The January production of paper board, wrapping, bag and building papers, registered a decrease under January, 1929, output. Uncoated book paper production showed an increase of 15 per cent, writing 7 per cent, hanging 3 per cent, tissue 2 per cent, and news print 1 per cent over January, 1929. Production of wrapping paper decreased in January, 1930, as compared with January, 1929, by 17 per cent, bag paper 9 per cent, paper board 3 per cent, and building paper 1 per cent.

Shipments in January, 1930, of wrapping, building, hanging, paper board, and bag papers, increased over January, 1929, the total shipments being 1 per cent below the total of 1929.

News Print Decreases

News print, wrapping, writing and tissue papers registered decreases in inventory at the end of January, 1930, as compared with the end of December, 1929. As compared with January, 1929, inventory, news print, wrapping, bag, and tissue papers showed decreases. The total stocks on hand for all grades was 2 per cent above December, 1929, and 3 per cent below that of January, 1929.

Identical pulp mill reports for January, 1930, indicated that the total production of all grades of pulp was 2 per cent less than January, 1929.

More Bleached Sulphite Consumed

During January, 1930, 18 per cent more mitscherlich sulphite, 9 per cent more bleached sulphite, and 7 per cent more soda pulp was consumed by reporting mills than in January, 1929. The total shipments to outside markets of all grades of pulp in January, 1930, were 5 per cent below the total for January, 1929.

Drop in Pulp Grades

All grades of pulp, excepting bleached sulphite, easy bleaching sulphite and kraft, showed decreases in inventory at the end of January as compared with the end of December, 1929. As compared with January, 1929, all grades, excepting bleached sulphite, easy bleaching sulphite and kraft pulp, registered decreases in inventory.

REPORT OF PAPER OPERATIONS IN IDENTICAL MILLS FOR THE MONTH OF JANUARY, 1930

Grade	Production tons	Shipments tons	Stocks on hand end of month tons
News print	124,851	124,262	18,778
Book (uncoated)	96,642	94,655	45,221
Paper board	217,563	215,257	64,288
Wrapping	48,275	49,078	47,091
Bag	14,546	14,406	6,201
Writing	32,587	33,271	42,619
Tissue	12,820	13,089	8,506
Hanging	6,188	5,986	3,824
Felts and building	5,724	4,600	4,262
Other Grades	24,459	23,379	18,939
Total—All Grades	583,655	577,983	259,729

REPORT OF WOOD PULP OPERATIONS IN IDENTICAL MILLS FOR THE MONTH OF JANUARY, 1930

Grade	Production tons	Used during month tons	Shipped during month tons	Stocks on hand end of month tons
Ground wood	92,701	91,116	2,808	42,709
Sulphite, News Grade	38,521	35,695	3,432	6,247
Sulphite, Bleached	29,442	26,810	2,316	3,471
Sulphite, Easy Bleaching	3,622	3,149	434	1,100
Sulphite, Mitscherlich	7,153	6,502	972	843
Kraft Pulp	29,189	24,851	4,195	6,378
Soda Pulp	25,576	16,612	9,072	3,452
Pulp—Other Grades	48	.....	67	3
Total—All Grades	226,252	204,735	23,296	64,203

Fir-Tex to Open Early in July

The Fir-Tex Insulating Board Company plant which is now under construction at St. Helens, Ore., as one of the major developments on the coast this year, will be opened July 4 according to present plans, with operation to get under way shortly thereafter.

This plant will occupy approximately 132,000 square feet of floor space with a total of 111,300 square feet of ground space, some of the buildings being two stories in height. These figures include the dock and runway space leading from the dock to the digester buildings. Some of the buildings are already prepared for occupancy and work of installing machinery is under way.

The digester building is two stories, 46 by 158 feet; the shredder building, two stories, 39 by 170; machine building, two stories, 47 by 144; dryer building, 47 by 512; retort building, 36 by 272; finishing room, 64 by 94; board storage, 90 by 300; boiler house, 44 by 84; laboratory, two stories, 48 by 128; pump house, 16 by 32; garage, ten-car capacity, 36 by 50 feet. The dock is 48 by 200 feet with a runway 800 feet long leading to the digester. Included in the property of the plant is a dock 1800 feet long.

Hamlin F. McCormick of St. Helens is president of the Fir-Tex Company and Charles E. Dant of Dant & Russell is chairman of the board of directors.

Canadian News Print Mills Co-Operating

International Paper Co. Reported to Have Agreed to Pool Some of Their Orders to Insure Equitable Distribution of Tonnage In Ratio of Capacity — Move Should Promote Easier Feeling All Around and Lead to Solution of Other Problems

[FROM OUR REGULAR CORRESPONDENT]

MONTREAL, Que., March 17, 1930.—The indications recorded in my despatch last week of a measurable degree of co-operation having been arrived at between the International Paper Company and the other large producers of news print in Canada appear to have had good foundation, for unconfirmed rumors are now going around to the effect that the International has agreed to pool some of its orders so that a more equitable distribution of tonnage in ratio to capacity may obtain among the mills.

It is no secret that the International's mills here have been running to 100 per cent of capacity and even more while some of the other mills in Canada have been down to about 71 per cent of capacity. If, as is now believed to be a fact, the International has now come into line on this question with the big interests represented in the Canadian Newsprint Institute, it will mean an easier feeling all round and pave the way to wider co-operation on other important questions and problems with which the industry is faced.

Some of the papers here have been making guesses at the tonnage which it is supposed the International has agreed to hand over to other mills, but it is not likely that such figures will be made public, and in any case they would naturally vary as conditions developed.

If it is the case that the company has agreed to this departure, it will be a great relief to the Provincial Government and free it of the necessity of singling out the company for disciplinary measures in regard to pulpwood cutting and so on. Also the political aspects of the situation, which were proving most embarrassing to the Government will tend towards disappearance.

Anglo-Canadian Co. Rumors

As is well known, Viscount Rothermere, the proprietor of the London *Daily Mail*, has been president both of the Anglo-Canadian Pulp and Paper Company, of Quebec, and the Anglo-Newfoundland Development Company, of Grand Falls, Newfoundland. The inference that closer working relations between these two companies are now to be established is drawn from the announcement that Frank J. Humphrey has been appointed president, and R. A. McInnis vice-president and managing director of the Newfoundland company, and that both men will retain their positions with the Quebec concern. Mr. McInnis will now be general manager of both concerns, the one at Quebec with a capacity of 500 tons per day, and the one in Newfoundland with a capacity of 350 tons per day.

The Tree Seed Industry

Canada is yearly playing a bigger part in Empire reforestation as shown by the shipments of tree seeds from the seed extraction plants of the Forest Service of the Federal Department of the Interior.

How large these shipments bulk in tree planting work in the British Isles may be gauged from the recent report that the British Forestry Commission has in the past ten years planted 140,000 acres of softwoods and that its program includes the planting of 23,000 acres annually.

Much of the seed used in this work comes from Canada. The climate of Great Britain is, on the whole, similar to that of the coast of British Columbia, and it is the species native to that region that are largely being planted.

To date approximately seventeen tons of cleaned seed have been supplied. Of this 53 per cent has gone to Great Britain and 40 per cent to New Zealand, while the remainder has served to meet the needs of Australia, Ireland, and other parts of the Empire.

Sitka spruce from the Queen Charlotte island on the British Columbia coast has formed 33 per cent of the seed collected. Most of this has gone to Great Britain. Western yellow pine, collected in the interior regions of that province forms another 33 per cent. This is largely helping to reforest New Zealand.

Douglas fir from the Coast regions, represents about 20 per cent of the seed shipped (mostly to Great Britain) and the rest is composed of smaller quantities of Western red cedar, lodgepole pine, Western hemlock, Western white pine, and a number of other species.

Brompton Earnings Lower

The Brompton Pulp and Paper Company's statement shows for the year ending December 31, last, a gross profit of $1,221,264, as compared with $1,655,396 in 1928. Deduction of $377,607 for reserves for depreciation and income tax, left a balance of $844,199, against $1,069,531 in the preceding year. From this balance was deducted $600,138 for dividends on common, leaving a surplus for the year of $244,061 against $329,902 in the preceding year, when interest and other charges amounted to $364,629 and common dividends to $375,629.

The decline was not unexpected in view of the lower price for news print and the fact that the company shared its tonnage with other companies in the Canadian Newsprint Institute. A feature of the report is the evidence of a further and important strengthening of the financial position of the company, as attested to by the increase in working capital and the disappearance of a quarter of a million dollar bank loan.

Cyrus Eaton Buying Abitibi Paper

It is reported here that a new group headed by Cyrus Eaton, of Cleveland, has for some months past been a large buyer of the securities of the Abitibi Power and Paper Company. It is said that Mr. Eaton and his associates are now among the largest shareholders of the company. Mr. Eaton is said to have had a substantial interest in the International Paper company, and it is thought that in the near future he may be able to bring about a closer working agreement between the International and the Abitibi company.

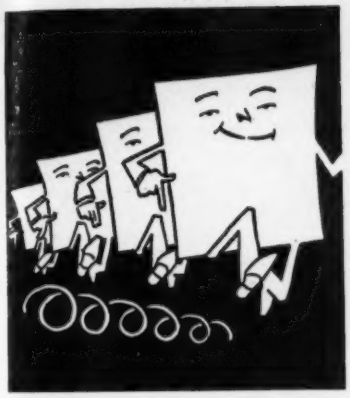
Mr. Eaton is a native of Nova Scotia. He went to the United States in 1900 and became a naturalized American citizen. He has been prominently identified with public utilities in Cleveland, and is a member of a well-known banking house there which has had much success in mergers of important companies.

As against the above news are the rumors that pourparlers have been proceeding between the Canada Power and Paper Company and the Abitibi Power and Paper Company whereby the latter would be brought into the Canada Power Company's consolidation.

Clarence Osborn Goes To Camas

[FROM OUR REGULAR CORRESPONDENT]

NORFOLK, N. Y., March 15, 1930.—It was learned this week that Clarence Osborn has left for Camas in the state of Washington where he will superintend the installation of machinery in a new paper mill recently erected by the Crown Willamette Paper Company. He plans to move his family there as it is understood that the work will require about one year. He is an expert in that line and has performed similar service for a number of the largest mills in the country.



BIRD MACHINERY

MAKE YOUR PAPER COME CLEAN---CENTRIFINE IT

Centrifining brings new qualities to your paper—new profits to your mill. With Bird Centrifiners* you can make, for the first time, paper that is absolutely clean—not a speck. And you can increase the percentage of profit-making first sheets. Let us give you the whole story. Write.

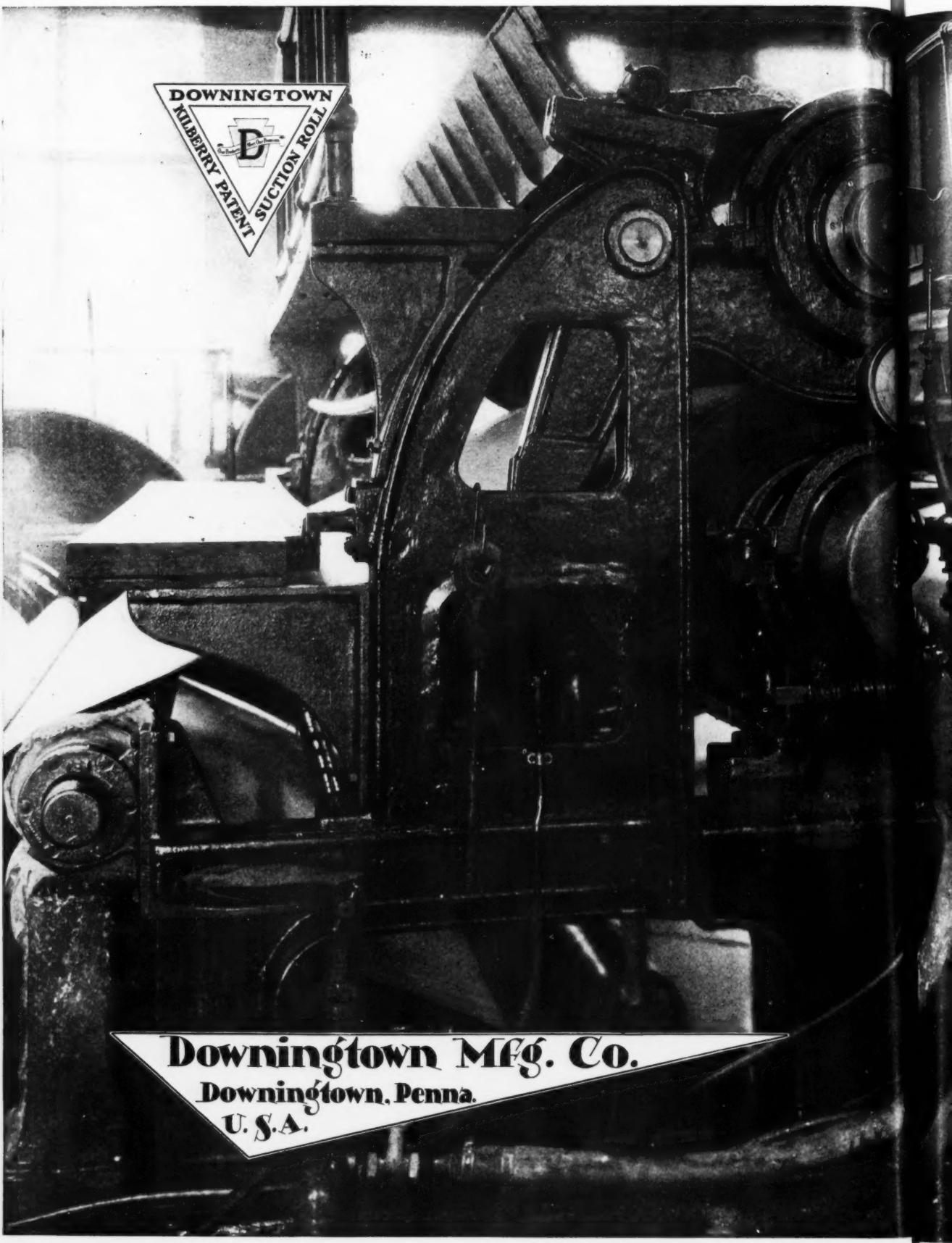
Bird Machine Company
South Walpole, Massachusetts

*Manufactured under license from the Centrifugal Engineering and Patents Corporation, owners of the Erkensator patents.

NOW YOU CAN MAKE PAPER THAT IS REALLY CLEAN . . .

USE BIRD CENTRIFINERS

3810


DOWNINGTOWN
KILBERRY PATENT SUCTION ROLL
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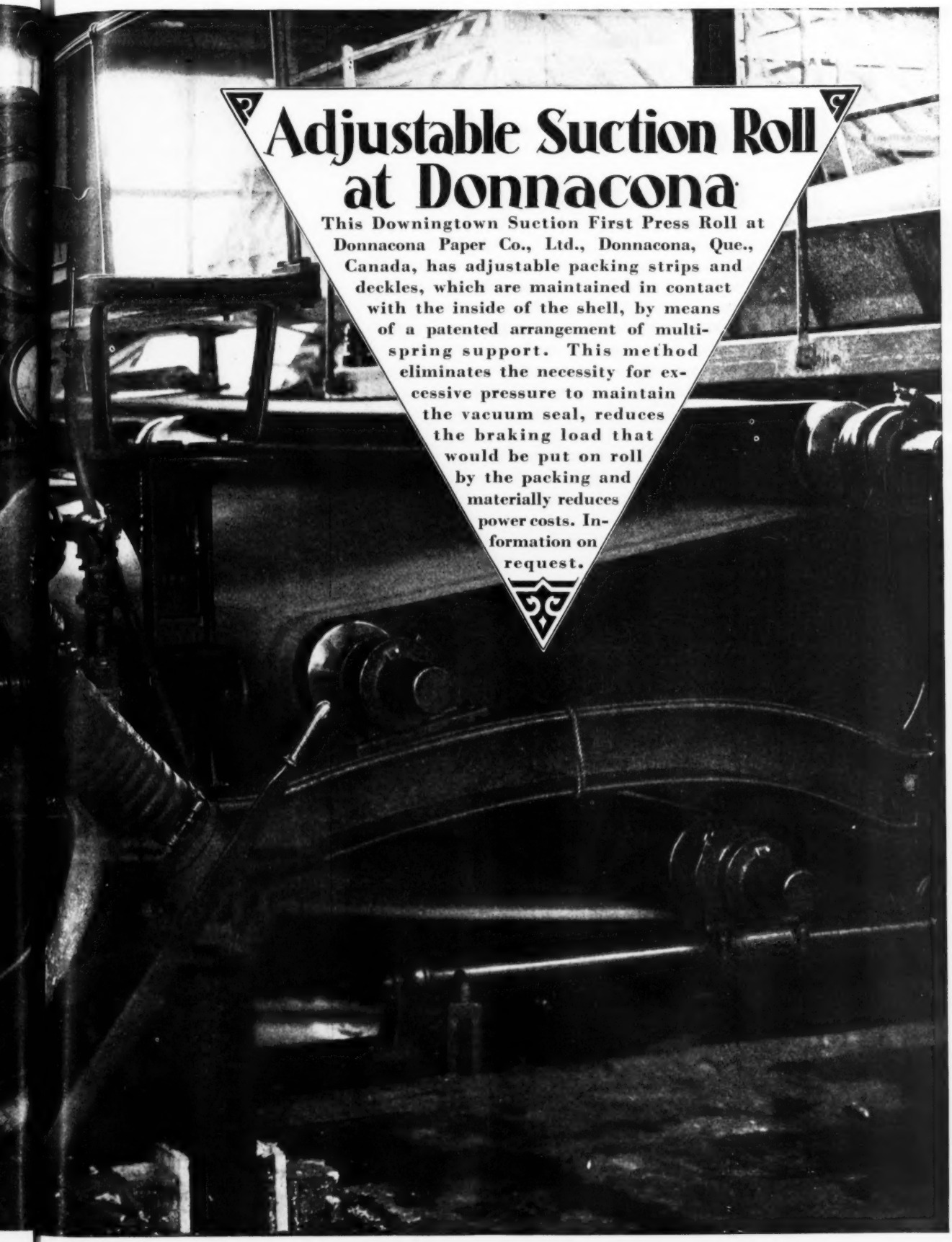
Downingtown Mfg. Co.
Downingtown, Penna.
U. S. A.



Adjustable Suction Roll at Donnacona

This Downingtown Suction First Press Roll at Donnacona Paper Co., Ltd., Donnacona, Que., Canada, has adjustable packing strips and deckles, which are maintained in contact with the inside of the shell, by means of a patented arrangement of multi-spring support. This method eliminates the necessity for excessive pressure to maintain the vacuum seal, reduces the braking load that would be put on roll by the packing and materially reduces power costs. Information on request.

Fox River Valley Power Section Improvement

Large New Dam Will Shortly be Constructed at Rapid Croche, Near Kaukauna, Wis., to Replace Old Structure In Use Since Early Days of Paper Industry—Principal Dams at Appleton, DePere and Little Rapids Have Already Been Completely Rebuilt

[FROM OUR REGULAR CORRESPONDENT]

APPLETON, Wis., March 17, 1930.—Construction of a large new dam will be started about May 1 at Rapid Croche, one of the important links in the power section of the Fox River near Kaukauna, Wis. The United States engineering department, with A. F. Everett in charge, will conduct the building operations. Details as to construction have not been revealed, but the structure is to be of concrete and will replace one that has been in use since the earliest days of the paper industry. The height of the dam is not to be changed. This is another link in extensive water power improvements conducted by the government. The principal dams at Appleton, DePere and Little Rapids have been rebuilt completely.

Paper Mill Awarded Big Tax Refund

After considerable investigation and appraising, the Dells Paper and Pulp Company, Eau Claire, Wis., is to be given a large refund of federal taxes by the government. The total amount is $175,494.10. It was found by the court and the treasury department that the computation of net income for 1917 was $140,269.13 above the correct amount. An additional allowance for depreciation gives another refund of $18,119.68. Another $12,841.92 results from restorations to the previously determined interested capital of certain amounts, and $4,263.37 is caused by a recent decision of the Board of Tax Appeals concerning the company's 1920 taxable income. The treasury department has ordered $124,330.93 of the tax assessed against the company in 1917 abated, has credited the company with $46,899.90 of the 1917 assessment, and has credited it with the over assessment of $4,263.37 for the year 1920.

Fox River Navigation to Open

Paper mills will have the advantage of river transportation earlier this season than in the last several years. Navigation on the Fox River, where all the mills of the valley are located, is to start March 24. Mild weather has resulted in the disappearance of ice, and there will be little trouble because of spring floods and high water. The Fox River Navigation Company, which ships coal to the paper mills from Green Bay, Wis., has overhauled and repaired its tugs and barges and is ready for the season's work. Government locks at several points along the river have been repaired and new gates have been installed at needed places.

State Timber Sale Policy Changed

A change in policy concerning the sale of timber and timber lands owned by the state is announced by John W. Reynolds, attorney general of Wisconsin. Hereafter it will be impossible for private concerns to buy these properties until they have been offered to the Wisconsin Conservation Commission. If that body does not want to purchase them from the state land commission, they will then be offered for public sale. This policy is expected to help the conservation of timber in line with the growing tendency along that line.

Marinette Safety School Progress

Thus far 270 persons attending the safety school conducted by paper mills and others at Marinette, Wis., are entitled to safety certificates because of regular attendance at the weekly sessions. The school will close within two weeks, and an effort is being made to keep up this record. Last week's program included first aid demonstrations and an address by B. Salisbury, safety director of the Federal Rubber Company, of Cudahy, Wis.

Boston Paper Trade Happenings

[FROM OUR REGULAR CORRESPONDENT]

BOSTON, Mass., March 17, 1930.—The regular meeting of the New England Paper Merchants Association was held at the Harvard Club of Boston, Friday evening, March 14, with President Arthur E. Ham presiding. There was a good attendance. Among the speakers were Charles A. Esty, of Carter Rice & Co., Corp.; Matthew O. Byrne, of Whitney Bros.; and Arthur W. Blackman, the latter giving an outline of plans of the National association for the present year and what the organization hoped to accomplish. Allen J. Wilson, president of the Master Truckmen's Association, gave an interesting talk on the transportation problem, discussing the cost of handling trucks and how risks have increased in the last year.

The Arnold-Roberts Company, who had previously taken on Caslon Bond, made by the Munising Paper Company, Munising, Mich., have now become distributors of Caslon Ledger and Caslon Mimeograph Bond, made by the same concern. The Mimeograph Bond bears a strong resemblance to bond paper, but, as the name implies, is for mimeograph work.

John J. Gobell, for seventeen years general manager of the New Bedford Storage Warehouse Company, New Bedford, Mass., has embarked in the paper stock business at 350 South Second street, that city. He is to install new machinery and equipment. Mr. Gobell will make a specialty of books and news.

E. M. Erickson, general manager of the paper box department of the Pairpont Corporation, New Bedford, Mass., manufacturers of paper board, cut glass and silver ware, as well as paper boxes, called on the Boston trade last week.

Boston Paper Trade Fair to Good

[FROM OUR REGULAR CORRESPONDENT]

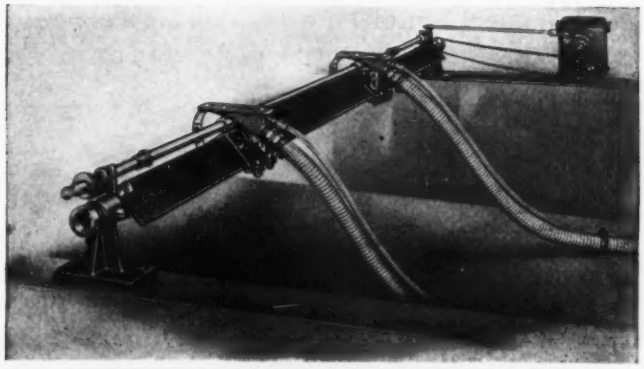
BOSTON, Mass., March 17, 1930.—Business continues generally fair to good in the Boston paper market. Demand for high grade paper for use in connection with direct-mail advertising of high grade merchandise is noted. Average amounts of kraft are moving. The specialty section of the industry is in favorable condition.

The box board situation is unsatisfactory as a whole, although of late there had been some improvement. In some lines of containers, such as shoe boxes and textile boxes, there has been a slight improvement, which is reflected in the demand for board. A dealer, however, in commenting on the situation, says that conditions are sub-normal. Whatever is wanted is wanted in a hurry and "the trade is waiting to see what is going to happen." Prices are unchanged, except that a quantity of filled news board has been sold for the price of chip board.

For paper stock the demand is slow, "just dragging along." Prices are generally the same and it is rather generally conceded that they are on lowest levels.

Tolhurst Machine Works Acquires John A. Lyden

The Tolhurst Machine Works, Inc., Troy, N. Y., announce the addition of John A. Lyden to their pulp and paper mill staff. Mr. Lyden is a son of Frank P. Lyden, general manager of Fraser Paper, Ltd., Madawaska, Maine, where he has been serving in the capacity of assistant to his father. He also spent two years in the employ of the International Paper Company, Bastrop, La. Mr. Lyden is also a chemical graduate of Cornell besides taking the pulp and paper course at the University of Maine.



"I wish we could make as profitable an investment more often..."

That remark, with an order for another installation, shows what one mill thinks of Vickery Felt Conditioners.

Many an installation has paid for itself within six months—in elimination of shut-downs for washing and roping—better-finished paper—faster drying—prolonged felt life.

May we show you what the Vickery Felt Conditioner will do in your mill? At our expense?

BIRD MACHINERY

BIRD MACHINE COMPANY

South Walpole, Massachusetts

3811

Paper Demand Improves Steadily in Chicago

Standard Grades of Fine Papers In Seasonal Request Show Exceptional Strength — Tissues Moving In Better Volume Than of Late—Ground Wood Specialties Exhibit Steady Trend —News Print Market Rather Quiet—Box Board Prices Unchanged

[FROM OUR REGULAR CORRESPONDENT]

CHICAGO, Ill., March 15, 1930.—Slow but steady improvement is noted in Chicago paper lines this week. Not all of the reports are favorable but certain grades of paper are doing exceptionally well as they come into their seasonal market. Tissues have improved during the past week as have certain grades of fine papers. From now until after Easter there will be no let up in efforts to surpass 1929 sales efforts in these lines. The news print market is reported to be lagging somewhat but is gradually beginning to feel the increased advertising lineage in various publications. Over production in krafts has not yet been righted. The Chicago jobbers dealing in this market have expressed the desire to pay higher prices and get a more stable market.

Ground woods are improving slightly. Box board would be well along the road to a good year—and will be—if the price situation is taken care of as box board executives here are said to expect. Book and cover markets are stable, the price steady and the demand fairly good. In the waste paper market the higher grades continue their activity while the lower grades have continued an improvement begun a few weeks ago.

Outlook for Container Corp. Better

Walter P. Paepcke, president of the Container Corporation of America, has been quoted as saying that the outlook of the company for 1930 is better than a year ago. He said that throughout 1929 the company had demonstrated its ability to keep reductions in manufacturing costs ahead of decreasing prices.

Paper Merchants Discuss Credits

The Chicago Paper Association held its regular meeting on Tuesday, March 11, at the Bismarck Hotel, Chicago. According to D. F. Peck, president, among the important topics discussed was the credit situation. The association is contemplating the creating of a strong credit department which will work hand in hand with the Chicago Credit Men's Association, according to the report. When this is worked out it is felt that the result will be a distinct contribution to the Chicago coarse paper market. Another interesting discussion resulted in the voiced opinion that Chicago paper jobbers would much prefer to pay higher prices for kraft papers and have a stable market than to pay lower prices in a market where price conditions were so uncertain. In other words, according to Mr. Peck, the jobbers were tired of experiencing such a change in prices, preferring to pay higher prices to prevent the price cutting and unstability of the market. Mr. Walter Schulman, of Levin Brothers, vice president, was in charge of the meeting.

Lester G. Lawrence Dead

Lester G. Lawrence, vice president of C. J. Lawrence & Bros., paper box manufacturers, of Chicago and Holland, Mich., died March 13 at his home at 1007 Lake avenue, Wilmette. He was 69 years old and leaves a widow, two sons and two daughters. His funeral was held at 2 p. m., March 15, from a chapel at 1109 Central avenue, Wilmette, to Graceland Cemetery. Mr. Lawrence was well known in Chicago paper circles and in national circles as well.

News of the Trade

The current issue of "Rags," published by the Rag Content Paper Manufacturers, contains a number of striking illustrations of lithographed and type set letter heads, both "before and after" revision. The improvement after the revision is remarkable in both cases. On the opposite page is a discussion of letter heads and of the importance of having them properly designed and printed. The importance of the letter head as a sales piece is mentioned. And, of course, the intimation is that the job can best be done on rag content paper of good quality.

"Figure This Out, Please!" is the title of the most recent direct mail piece of the Bureau of Envelope Manufacturers of America. The text of the one page sheet deals with the importance of good envelopes in doing business, gives actual figures as to the cost of improving an envelope and some striking copy on what can and should be done with good envelopes. The specified advertisement that came to us was presented along with a detailed description of "Claremont Armorplate," a product of Gaw-O'Hara, big Chicago envelope manufacturers.

The current issue of Westvaco Inspirations for Printers, mailed from the Chicago office of the West Virginia Pulp and Paper Company at 35 East Wacker drive, has for its interesting title "This Dynamic Spirit Which We Call Modern." A brief history of the development of this modernism, "Freedom and Directness," "When the Product Goes Modern," "When Woman Looks at Printing" and "Modernism Turns Merchandiser" are subjects discussed and illustrated with color reproductions of actual modern advertising work.

P. H. Glatfelter Co. To Expand Plant

SPRING GROVE, Pa., March 15, 1930.—The P. H. Glatfelter Company has begun work on an expansion program which will entail the expenditure of from $750,000 to $1,000,000 at its plant here. The additions will provide for an enlarged filter plant and a 192 inch papermaking machine and beaters with the necessary finishing departments and raw material storage facilities.

The general contract for the buildings has been awarded to the Paul R. Hostetter Company of York, Pa., and work has been under way for several weeks. To make room for the new buildings which will parallel number 5 machine, 170 inches in width, it was necessary to move the main line of the Western Maryland Railroad forty feet to the east.

The Norwood Engineering Company, of Florence, Mass., has the contract for the additional equipment to the filter plant, while the Pusey & Jones Corporation, of Wilmington, Del., will build the paper machine.

It is expected to have the new machine in operation the latter part of the year. This addition will increase the paper making capacity of the plant to 330,000 pounds every twenty-four hours, the product being principally book and bond papers and many specialties.

No major additions will be made to the pulp mill although a new system of two-stage high-density bleaching has just been completed and is in operation, which will result in greater production as well as an improved quality of pulp.

Norwegian Pulp and Paper Prices in 1929

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., March 5, 1930.—With the two exceptions of mechanical ground wood and boards, Norwegian pulp and paper exports during 1929 show little change over the preceding year. In the items mentioned, ground wood increased from 523,156 tons to 600,092 tons, or by 15 per cent, and boards from 13,082 tons to 15,453 tons or by 18 per cent.

Air-Floated!
—Washed by this unique Huber process of air-classification, Paragon Clay represents the finest natural quality available in Paper Clay.
Brilliant white color, soft, uniform particles, quick mixing—it is not surprising that Paragon has become the standard clay in many of the leading mills.
Samples and quotations upon request.
J.M.HUBER, Inc.
460 West 34th Street, New York
Branches in principal cities
aerfloted
PARAGON CLAY

Dalhousie News Print Mill Formally Opened

Numerous Mill Officials and Leaders of Industry Witness Impressive Ceremonies at Inaugural of International Paper Co.'s New Plant In New Brunswick — President Graustein Praises Those Who Had Brought Plant Into Being In Less Than 18 Months, Especially Allen Curtis, In Charge of Its Engineering and Design

[FROM OUR REGULAR CORRESPONDENT]

DALHOUSIE, N. B., March 14, 1930.—The new 550-ton news print mill of the International Paper Company was opened here today with impressive ceremonies carried out in the presence of a large number of people prominent in the official and business life of Canada and of the people of New Brunswick. These included Major-General Hugh H. McLean, Lieutenant-Governor of New Brunswick; the Hon. J. M. Baxter, K.C., Premier of the Province; A. R. Graustein, president of International Paper and Power Company; Col. John H. Price, president of Price Brothers & Co., and of the Canadian Newsprint Institute; directors of Canadian International Paper Company, including the Hon. Smeaton White (president of the *Montreal Gazette*), Victor M. Drury, and James A. Eccles; G. D. Bearce, manager Dalhousie Paper Mill; officers of the International Paper Company; the Hon. A. A. Dysart, leader of the Opposition in New Brunswick; the Hon. C. D. Richards, Minister of Lands and Mines for New Brunswick; the Hon. E. A. Reilly, chairman of the New Brunswick Electric Power Commission; C. W. Nelson, Mayor of Dalhousie; E. A. Charlton, vice-president New Brunswick International Paper Company; William Phillips, Industrial Commissioner of Canadian National Railways; and in addition members of the Provincial Legislature and representatives of the various trade organizations and business interests in St. John, N. B., Fredericton, Grand Falls, Monckton, Campbellton, and other points in the Province.

The formal ceremony of opening the mill took place in a section of the paper storage building, where a group of school children sang the national anthem "O Canada" as Premier Baxter closed the electric switch putting the mill officially into operation. Guests then made a tour of inspection, after which luncheon was served in the gaily-decorated administration building. The speeches at the luncheon were broadcast by the Canadian National Railways broadcasting system, and were heard throughout Eastern Canada.

President A. R. Graustein's Address

A. R. Graustein, in the course of his address, said that the International Paper Company was no stranger to New Brunswick, for through the Dalhousie Lumber Company, formed 27 years ago, the Miramichi Lumber Company, and the coal mines at Minto, the International had long been a factor in the life of the Province. "Through all the years of our past history," he remarked, "and more particularly through the expenditure by the Saint John Power Company and New Brunswick International Paper Company of millions of dollars in the employment of labor and the purchase of materials and supplies, we have come to know New Brunswick, and New Brunswick has come to know us, very well." He continued:

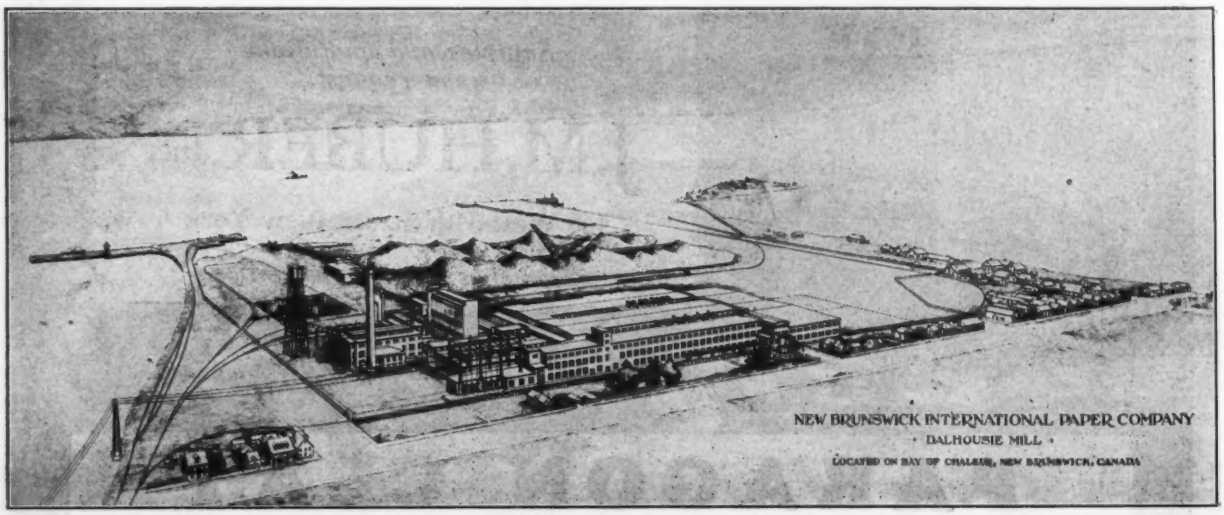
"The interests of the Province and of International are identical. On the one hand, the Province seeks industrial development, through proper utilization of its natural resources. For our part, we are concerned with the sound investment of funds entrusted to us by thousands of investors in Canada, Great Britain and the United States.

"More than 79,000 people are shareholders in the various companies comprehended in the International organization. In nineteen major financing operations Canadian investors have subscribed in excess of $55,000,000."

Attitude Towards Labor

He proceeded to describe the policy of the company towards labor, saying the organization was built on the principle of providing regular employment under healthful working conditions at a fair wage. There was also an insurance system through which fully 90 per cent of the employees were protected, and approximately $7,000,000 of such insurance was now in force in Canada. The company also sought to have its employees as partners and gave them an opportunity to buy preferred stock. Total subscriptions over the past five year period exceeded 48,000 shares, and International now distributed annually to its employees about $250,000 in dividends and in 1930 would distribute $80,000 in bonus payments on this stock.

Thus far in the company's New Brunswick operations they had expended more than $20,000,000, these including the development



PLANT OF THE NEW BRUNSWICK INTERNATIONAL PAPER CO. AT DALHOUSIE, N. B.

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The malleable block links of Jeffrey Hercules Chain have a hard skin for wear and a tough interior to withstand pounding. Strap links are .40 high carbon steel. Links are assembled with *full diameter* D-shank pins which cannot turn in side bars. This confines the wear to the oval barrel which carries the greatest amount of metal exactly where the greatest wear occurs. *Full diameter* pins increase the strength of the chain 25% over chains using milled pins.

Jeffrey Chain and Attachments, for every requirement, are completely described in catalog No. 480-E. We'll be glad to send you a copy on request.

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JEFFREY
MATERIAL HANDLING EQUIPMENT

of Grand Falls and the building of the Dalhousie mill. The annual expenditure in Canada in forest protection exceeded $300,000.

World's Largest News Print Producer

Discussing International's position in the news print industry, he remarked that for many years the company had been referred to as the world's largest producer of news print. "This is true," he said, "but you should not be misled as to the proportion which International produces. Total North American production in 1929 was 4,376,000 tons, of which International produced 768,000 tons, or 17.6 per cent. Fifteen years ago total production was 1,728,000 tons, of which International produced 326,000 tons, or 18.9 per cent.

"Until 1922, all of International's news print production was in the United States. Five years ago two-thirds of our production was in the States, while in 1929 less than one-third came from United States mills. From a high figure of 440,000 tons, production in United States mills has declined to 220,000 tons in 1929."

Tribute to Allen Curtis

Turing to the Dalhousie mill, he said that less than eighteen months ago the site of this mill was a mud flat. Today, as a result of engineering skill and the employment of, at times, as many as 1,600 men, it was ready to take its place in the industrial structure of the Province. He paid tribute to the men who had brought it into being, and particularly to Allen Curtis, who had been in charge of its engineering and design.

Mr. Graustein added: "I had hoped to be able to make an announcement today as to the date when construction of our Miramichi mill would be commenced. We have, as you know, an agreement with the Government of New Brunswick in regard to the building of that mill, and while conditions not under our control, or the control of the Province, have postponed the starting of construction under that agreement we, nevertheless, intend to build that mill."

Premier Baxter's Speech

Premier Baxter said the opening of the mill was one of the outstanding industrial events in the history of the Province. Production was the way to wealth, and in no other department did the opportunity seem to be so good as in that of the Province's forest wealth. But capital was needed, and the Government had succeeded in bringing this in. The International Paper Company was told, when it purchased the water power at Grand Falls that some share of the power must go to others, even though they might be competitors. Consequently, without a dollar of expense to the Province, Grand Falls had been developed and its current distributed both to the International Paper Company and to the Fraser Companies. Forty millions of capital had been expended, or was in the course of being invested, in enterprises in New Brunswick, and thousands of men were employed where there were none before. He added: "The mill which has now been opened at Dalhousie, the mill about starting operations at Athole, together with the mills to be built on the Miramichi afford, I think, good grounds for popular approval of the efforts which have been made to restore industrial prosperity to New Brunswick."

Largest Mill in the Maritimes

The Hon. C. D. Richards, Minister of Lands and Mines, said never before had anything contributed so much to brighten the business horizon in New Brunswick as the successful completion of the hydro-electric power plant at Grand Falls and the construction of the Dalhousie mill. The latter was the most modern plant of the kind that engineering skill could devise and by far the largest news print mill in the Maritime Provinces. Vast quantities of raw material formerly left in the woods on the Restigouche watershed because unsuitable for the manufacture of sawn lumber would now be brought out and utilized in the pulp and paper mill. The mill would also provide an additional home market for 150,000 cords of wood from privately-owned lands annually exported from the Province in an unmanufactured state. Then years ago as much pulpwood was exported in a raw state as was manufactured in New Brunswick. The amount to be manufactured in the Province in 1930 would be three and a half times the quantity exported. He proceeded:

"In this connection it must be borne in mind that the amount of pulpwood required to supply the mills in New Brunswick in 1930 includes that necessary for the Dalhousie mill, for the greatly enlarged and improved pulp and paper board mill of the Fraser Companies at Edmundston, for the new pulp mill at Athol now nearing completion by the Restigouche Company, for the doubled capacity of the Bathurst Power and Paper Company's news print mill, for the Fraser Companies' pulp mill at Millbank, for the Nashwack Pulp and Paper Company's pulp mill at Saint John, and for the St. George Pulp and Paper Company's mill at St. George. In all over 550,000 cords will be manufactured, or double that manufactured in New Brunswick in 1925."

He remarked that 65 per cent of the Province was forested and that the total annual value of forest products was $30,000,000, of which $9,000,000 had been produced by pulp and paper mills. Employees in forest industries numbered 18,000 and were paid wages to the amount of $8,000,000 per year. The new pulp and paper mills and enlarged capacity of existing plants would add approximately $2,000,000 to the wages and $7,000,000 to the value of forest production, making the total value of the latter $37,000,000. The capital investment in the forest industries of the Province now reached $60,000,000.

He added that the new pulp and paper licenses contained adequate provisions to restrict the cutting to the annual growth so as to ensure a perpetual supply of material.

Details of the Mill

While built for an ultimate capacity of 550 tons of news print per day, the Dalhousie mill has an initial capacity of 250 tons, there being two machines with provision for two more. The mill is located on tidewater near the head of the Bay of Chaleur, in the northern part of the Province. In addition there is ample rail accommodations. Pure fresh water is brought from a reservoir created for the purpose eight miles away.

The ground wood mill is equipped with 12 hydraulic magazine grinders of the latest design. Each pair is driven by a 2,400 h.p. synchronous motor. The sulphite mill is equipped with three digesters having a capacity of approximately 12 tons each, and an acid accumulator of the latest design. The screening room has deckers, filters and other auxiliary equipment that has proven to be satisfactory in the screening of sulphite and ground wood pulp.

The paper machines will each produce a paper to the width of 226 inches and operate up to 1,200 feet a minute making up to 137 tons of paper a day.

The electric power to operate the mill is obtained from the new hydro-electric plant of the Saint John River Power Company at Grand Falls on the Saint John River. This company is a subsidiary of the Canadian Hydro-Electric Corporation, which in turn is controlled by International Paper and Power Company. The electric energy is sent to the mill over a 132,000 volt transmission line approximately 110 miles long.

Electrical energy is used not only to drive the various machines but to generate steam for the steel cylinders used in drying and processing the paper in the paper making machines.

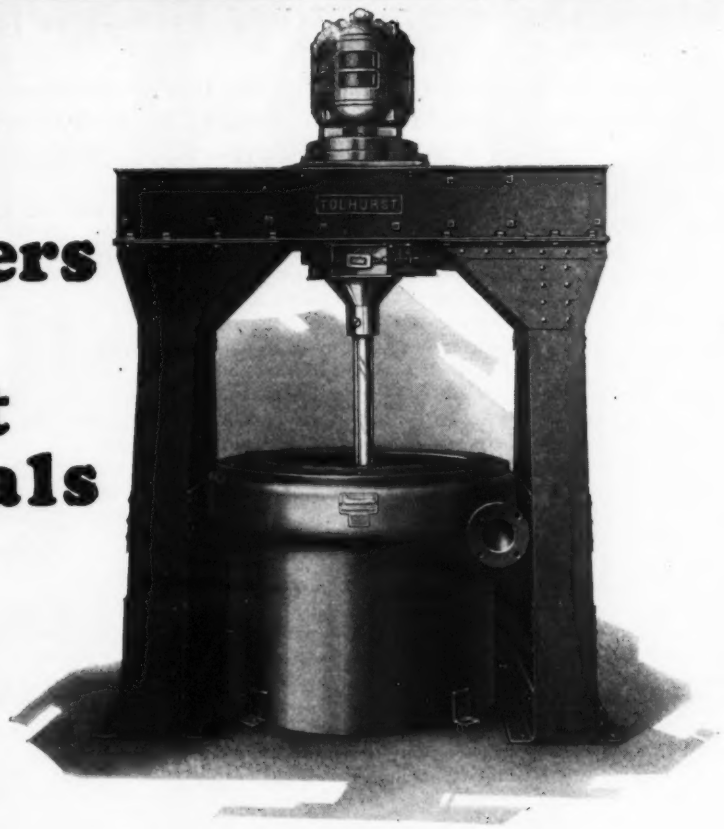
Approximately 40,000 h.p. will be used at the mill for motive power and steam power.

W. G. Lewis Goes With National Paper Products

[FROM OUR REGULAR CORRESPONDENT]

CARTHAGE, N. Y., March 15, 1930.—William G. Lewis has taken the position as chemical engineer at the plant of the National Paper Products Corporation in this village. He was graduated from Alfred University last year where he studied an engineering course and is well qualified for his new duties. For several months he worked in the chemical laboratory of Knowlton Brothers in order to gain experience and his promotion followed.

7 Repeat orders for Tolhurst Centrifugals



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3859

Demand For Paper Broadens in Philadelphia

Fine Paper Manufacturers Operating On Increased Schedule Although Distributors Are Mainly Trading In Hand-to-Mouth Market—Paper Specialties Exhibiting Livelier Trend With Approach of Easter—Southern Kraft Paper Prices Weaken

[FROM OUR REGULAR CORRESPONDENT]

PHILADELPHIA, Pa., March 17, 1930.—Growing demands have inspired the paper trade to broader efforts in the distribution of all lines of paper and those concerns which a short time ago curtailed staffs are again adding to their personnel. To keep in close touch with the local paper trade branch sales offices are now being opened by paper manufacturers who desire to keep their hold on the local market and its distribution as well as to maintain patronage from consumers. There is a rather disconcerting break in the price of kraft. Another half cent was cut from the price last week by a large southern manufacturer. This is the second cut that has taken place this year. Dealers who were buyers at the firmer values of late Fall are now able to margin down averages of cost f.o.b. mills so that they will not be heavy sufferers.

It is believed by local distributors that a rise will be announced in the kraft market as soon as the low offer produces results in tonnage to maintain operation to tide the mills over the poor business conditions of the present season.

Fine paper manufacturers report growing demand and broader operations. Distributors, however, are still trading in a hand to mouth market. Paper specialties show a livelier trend with the approach of Easter. Builders papers are being stocked in anticipation of good seasonal demand with quickened outdoor construction. Though several of the wholesale paper stock merchants report a growing demand this condition appears to exist only among concerns where purchases are made by order of corporations with board mills and converting plants and by fine paper manufacturers catering to contract buyers. Prices on all grades of paper stock were materially reduced within the week.

Paper Trade Association Activity

Inspired by recent activities of the National Paper Trade Association, the Philadelphia Paper Trade Association is launched on its way to the attainment of greater and better paper business—the initial steps in this direction having been taken at the meeting of the Fine Paper Division held last Wednesday at the Down Town Club. Realization that profitable business means united effort, with stricter attention to overhead and profit, the trade is alert to the opportunities that are offered in the constructive program of the National association and has taken steps to promote its progress in the right direction of safe and sane paper trading by following closely the factors that have been expounded after careful survey by competent authority. President W. S. Wilcox introduced the Program Committee, which has been appointed to provide a constructive and educational program that will promote the paper industry and to benefit the individual members in the conduct of their own business.

After introducing the committee of the following members—Chairman Norbert A. Considine, Paper. House of Pennsylvania; Leo F. Supple, Whiting Patterson Company; Thomas R. Fort, Jr., Thomas W. Price Company; Edward Keller, Garrett-Buchanan Company, and George W. Ward, D. L. Ward Company—Mr. Wilcox announced that a constructive six months' program had been compiled, and then read in detail the activities scheduled. At this meeting there was taken up the matter of cost accounting, the program committee having stressed the importance of this phase of business administration in accordance with the National association's plan of uniform cost accounting, and urged the dealers to give serious consideration to their accounting problems for the profitable conduct of their business and to watch carefully for leaks in overhead and in the details of paper marketing transactions. There was open forum discussion of the credit interchange question and this factor will be given further consideration at future sessions.

Miami Valley Has New Representative

The Miami Valley Coated Paper Company, of West Carrollton, Ohio, has a new local representative covering the Philadelphia trade. He is Martin McCann, for many years connected with the retail department of the Dill and Collins Company at 6th and Cherry streets prior to its retirement from that branch of the trade to confine its business solely to manufacturing of its nationally known fine papers. During the past week the new representative of the Miami Valley Company made his rounds of the trade announcing his attachment to its local sales staff.

Bayless Pulp & Paper Corp. Open Office

Offices have been acquired by the Bayless Pulp and Paper Corporation, of Austin, Pa., in the Fidelity-Philadelphia Trust Company Building, Broad and Walnut streets. C. P. Eliott, who was previously associated with the Union Bag and Paper Corporation and the Advance Bag and Paper Company, is manager of the offices where the sales of the local territory will be directed and where will be available samples of the line of wrapping papers, fiber papers and other specialties produced by the manufacturer.

Scott Paper Co. Reports

Reports issued during the week by the Scott Paper Company, of Chester, Pa., for the common stock in the month of February for 1930 shows an increase over that of the similar month of 1929, the former showing a total of $79,683, while last year the same month's sales were $64,402. The report also shows the following:—Earnings available for the common stock from January 1 to February 22 totaled $162,629, against $126,365 in corresponding period of 1929. February sales totaled $685,432, as compared with $663,053 in February, 1929. Sales from January 1 to February 22 were $1,358,660, as against $1,297,405 in corresponding period of 1929. The February earnings are equivalent to 51 cents a share on the outstanding 155,840 shares of common stock and compare with earnings of 42 cents a share in February, 1929, on the then outstanding 150,000 shares of common. For the period from January 1 to February 22 earnings are equivalent to $1.04 on the common, against 84 cents a common share in corresponding period of last year.

Hazzard Lasher In Charge of Lehigh Valley

Hazzard Lasher, son of the founder of the Lasher and Lathrop Company of New York City, is now associated with the Lehigh Valley Paper Company Division of S. Walter, Inc., a subsidiary of S. Walter, Inc., 145 North 5th street. He is in charge of the Allentown. Pa., headquarters. Previous to joining the local paper house he was connected with the Louisville Paper Company, Louisville, Ky., and was also for a time attached to the staff of the Storrs and Bement Company, of New Haven, Conn.

C. A. Holland Recovering From Eye Operation

Clarence A. Holland, for more than half a century associated with the firm of S. S. Garrett, 259 South 3rd street, is now at his home recovering from his recent operation at the Wills Eye Hospital for the removal of cataract of the eyes. The operation proved successful and he is again gaining his sight. Mr. Holland, who was general manager of the wrapping paper and specialty house of S. S. Garrett, is one of the veterans of the industry, having been

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associated with the trade for more than sixty years, and has passed the three score and ten milestone of life.

H. S. Dennison Talks at Social Science Conference

Henry S. Dennison, president of the Dennison Manufacturing Company, of Framingham, Mass., manufacturers of crepe papers, specialties and novelties, headed the program which was scheduled at the conference called by the American Academy of Political and Social Science at the Witherspoon Hall last Friday and Saturday. He was among the speakers included in the list of millionaires, manufacturers, labor union leaders, statesmen and university economists who discussed "The Second Industrial Revolution and Its Significance" which treated of the changes in industry and employment with the advent of labor-saving machinery. Mr. Dennison presided at the conferences. Following his directorship of the conferences, Mr. Dennison also gave a talk at Swarthmore College on "The Science of Management."

Charles Beck Co. Compiles Paper List

A comprehensive list of the various lines of paper stocked by the Charles Beck Company, 609 Chestnut street, was issued last week to the trade and to consumers. The new 1930 list has 250 pages devoted to the lines stocked, sizes and prices including full fine assortment of papers and envelopes of the Strathmore Paper Company, S. D. Warren Paper Company, William C. Hamilton & Sons Company, Falpaco Mark, Beck Papers, Standard Blotters, Esleek Onion Skins and other envelopes of the U. S. Envelope Company.

Dill & Collins Co.'s New Lines

During the past year the Dill & Collins Company, with mills at Richmond and Tioga streets, has perfected three new lines of papers which are now to be permanently stocked with its former marks. The three new papers announced are the Torchon, Suede Laid Tints and the Multykolor Letter. The Suede Laid is of the soft antique texture and is in five pastel shades which are laid and watermarked. The colors are light blue, peach, apple green, buff and melon as well as white. Torchon paper is made especially for the use of water color printing by press. After experimenting with papers useful in this line of work the Torchon line was perfected. It is soft and limp with desirable similarity of both sides of the sheet. It is of uncommonly high white color. Increasing use of four page letters prompted the Dill & Collins Company to provide a new paper particularly adapted for this purpose and this resulted in the introduction of the Multykolor Letter, which permits the reproduction of fine detail and brilliant color printing. There is an uncoated side for multigraphing, typewriting and hand signing. The coated side is very similar to the color on the reverse side. It is of unusual strength for folding purposes with and against the grain. It comes sealed in packages of 500 each stocked in sizes and weights specially adapted for four page letters.

August E. Barr With Bentley Paper Co.

August E. Baur has joined the sales staff of the Bentley Paper Company, with offices in the Public Ledger Building, of which R. Peel Bentley is head. The firm distributed the Louis DeJonge printing papers and other lines and these will be represented in the local territory by the new sales representative who covers the city and Up State trade. He previously was connected with the Charles Beck Company and has been linked with the local trade for the past decade. The firm has added the Invincible Bonds.

Paper Trade Travelers Return From South

Members of the Philadelphia Paper Trade Association who have been sojourning in the southern resorts and who were home in time for the meeting of the Fine Paper Division held last Wednesday were A. Richard Hartung, of A. Hartung, Inc., who has been cruising in the West Indies; Harry Donahue, of The Molten Company, who returned from Florida, and Thomas F. Furlong, who has been vacationing in Palm Beach and who is now at his desk at the headquarters of the Wilcox, Walter, Furlong, Paper Company.

Make Arrangements in Testing Sealing Tape

In order that the acceptors of Simplified Practice Recommendation R114-30 for No. 1 Kraft Paper Sealing Tape may have available a central testing laboratory for making uniform and accurate tests of the quality of kraft paper sealing tape, The Gummed Industries Association has made arrangements with Electrical Testing Laboratories of New York City for the standard tests in accordance with the specifications in the Simplified Practice Recommendation.

Any acceptor of Simplified Practice Recommendation R114-30 who desires to have samples of tape tested by a recognized and impartial laboratory may send samples to D. A. Crocker, secretary of the Gummed Industries Association, 18 East 41st street, New York City. These samples may be identified or unidentified as the sender desires. The secretary will in turn send these samples unidentified to the Electrical Testing Laboratories which will make the standard bursting, elmendorf and tensile tests required.

Reports on the tests will be returned by the laboratory to the Secretary of the Gummed Industries Association who will notify the sender as to the results of these tests. Arrangements have been made with Electrical Testing Laboratories for a reasonable flat rate charge for all tests.

It is believed that manufacturers, distributors and consumers of tape who had not the necessary testing apparatus and humidity control rooms will be glad to avail themselves of this opportunity to have tape tested by a laboratory of recognized standing in the paper industry.

P. F. Wehmer who is in charge of the paper testing section of Electrical Testing Laboratories is a member of the Paper Testing Committee of the Technical Association of the Pulp and Paper Industry, and Chairman of the sub-committee on Chemical Tests of Paper. The Electrical Testing Laboratories are fully equipped with all necessary testing apparatus, humidity control room, etc., and do a large amount of testing for manufacturers and consumers of various grades of paper.

H. P. G. Norstrand in Automobile Accident

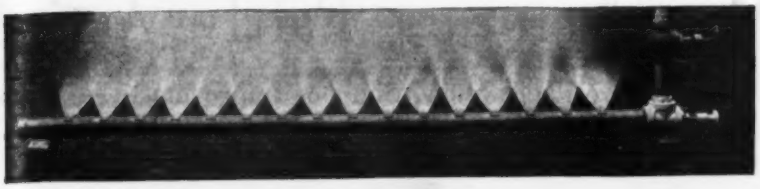
The numerous friends in the paper industry of H. P. G. Norstrand, president of the Saranac Pulp and Paper Company, Inc., and head of the Norstrand Manufacturing Company, both of Plattsburgh, N. Y., will regret to learn of a serious automobile accident to Mr. Norstrand and members of his family Monday, March 3. The party was returning to Plattsburgh from Montreal when the car because of the sleet and ice skidded near St. John. Mr. and Mrs. Norstrand who were riding in the rear seat were seriously injured and were rushed to the hospital. The latest reports stated they were resting comfortably and it was said they would recover. Leif Norstrand, their son, who was driving escaped practically unhurt, but his wife who was also in the car was injured and was taken to the Norstrand home where it was said she was resting comfortably.

International Staff Changes

[FROM OUR REGULAR CORRESPONDENT]

CORINTH, N. Y., February 24, 1930.—Announcement is made of the appointment of Frank R. Hyatt as general manager of the local plant of the International Paper Company to succeed Clinton V. Cassidy. Mr. Hyatt formerly resided in this district, but for the past few years has been identified with the company's plants at Three Rivers, P. Q., and Wilder, Vt.

Mr. Cassidy has been with the company for many years and for a time was associated with the main offices when they were located in South Glens Falls. On account of increasing work in the manufacturing department of the International Paper Company, with headquarters at 100 East 42nd street, New York, he has been called upon to help out there.



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For Fourdrinier Wires, Paper Machine Felts and Screen Plates

Try one of these Criss Cross Shower Pipes for 30 days on some part of your mill equipment on which you are having Shower Pipe Troubles. If not satisfied with results it can be returned . . . .

Criss Cross Shower Pipe Sprays Stays Clean

. . . We feel assured you will agree with the following statements regarding Criss Cross Showers: Keeps the slots on Screen Plates open . . . Cleans Fourdrinier Wires thoroughly--full width . . . No dirt can lodge in the plate slots, or in the wire mesh . . . Patented deflector causes equal force every inch of face . . . Shower water not used unnecessarily . . . White water can be used if desired, without clogging shower pipe. Send for dimension card for ordering. . . .

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Ontario Paper Manufacturers Fairly Active

Consumption of Practically All Grades of Fine Paper Shows Signs of Improvement — Book Paper Mills Reported to be Quite Busy With Orders Booked Ahead For Future Delivery —Satisfactory Sales of Kraft Wrapping Paper to Distributors Reported

[FROM OUR REGULAR CORRESPONDENT]

TORONTO, Ont., March 17, 1930.—Somewhat draggy conditions prevail in the wholesale paper market in Ontario. The trade has to be satisfied with orders of small individual volume and in keeping with business generally throughout the province paper distributors find it rather hard digging to make a showing from week to week. It was expected that sales would have increased by this time, following adverse conditions caused by stock market troubles and the western wheat situation, but it would appear as if the wholesale paper market were due for a further extension of light selling. Of course a certain amount of business is passing and some firms are recording fair sales of the small order variety. But a general loosening up is still lacking and it looks as if April will be here before the season's bigger buying era arrives. In the meantime the situation does not require the laying off of salesmen. On the other hand distributors in some cases have increased their sales staffs in an effort to uncover new sources of paper business.

The manufacturing end of the paper industry is fairly active and appears to have been less affected by adverse business conditions than the wholesalers. Book paper mills, for instance, are quite busy, and are gradually getting orders ahead for future delivery while transacting a fair amount of current business. Bond, ledger and writing mills could stand more business but the consumption of fine papers generally is showing signs of improvement from a mill standpoint and satisfactory tonnages are expected to develop during the spring and summer months. Of the wrapping papers, kraft is the most active, and satisfactory sales of this product from the mills to the distributors are reported.

The wrapping paper trade generally is none too active, although there has been some improvement in the paper bag trade. There is a fair call for manilas, blottings and blanks of Canadian manufacture and the coated paper market is showing some signs of improvement. The paper converting trade is still somewhat draggy, although envelope manufacturers are doing a fair trade, while manufacturing stationery firms and blank book manufacturers find orders somewhat slow in connecting, as far as any volume goes. With the paper box trade rather quiet, and the board mills operating lightly, there is only a moderate demand from the waste paper collectors. Their deliveries to the mills have fallen off considerably although prices have not been materially affected.

Paper Box Convention Plans

At a meeting of the executive committee of the Canadian Paper Box Manufacturers' Association held in Toronto last week committees were elected and final plans drafted for the annual convention of the organization which takes place in Quebec City June 16 and 17. The business session will commence in the morning. There will be a luncheon for the members and the meeting will continue in the afternoon, closing in time for a banquet that night, when the entertainment will be sponsored by both active and associate members. On the morning of the 17th there will be a session for unfinished business, with the remainder of the day given over to entertainment. The association has been fortunate enough to secure steamer accommodation despite the demands on traffic due to the Shriners' convention in Toronto, and the boat will leave on Saturday afternoon from Toronto, arriving at Montreal on Sunday and proceeding from Montreal to Quebec City, arriving there on Monday morning for breakfast.

Speakers already secured for the convention include E. E. Brooks, of the Dennison Manufacturing Company, Marlboro, Mass., a Canadian and an international figure in the industry; Walter E. Trum, last year's international president, who will describe the steps leading up to the establishment of trade practice regulations and the evils it is hoped to overcome through the Federal Trade Commission, and George S. May, the Chicago expert, who has installed and advised on labor conditions and cost systems in many of the leading industries of the United States.

The following committees for the convention were struck: Program, R. S. Dunlop, convenor, G. M. Hobart, F. A. Fielder, A. C. Telfer, C. T. Reid, F. W. Fisher; Transportation and hotel, B. Sproule, convenor, J. L. Constantineau, O. Lachapelle, E. G. Kirouac; Entertainment committee, A. B. Meredith, convenor, F. Thorn, J. Hewitt, T. A. Moisan, L. Lefebvre; Golf committee, E. V. Donaldson, C. N. Moisan; Ladies committee, Mrs. B. Sproule, Mrs. C. N. Moisan, Mrs. G. E. Reid, Mrs. F. A. Fielder, Mrs. J. J. Small; General committee, J. J. Small, J. B. Lawrason, D. H. McDermid, Arthur Harries, W. P. Bennett, C. Winter Brown, G. Hancock, L. J. A. Amyot, N. G. Kirouac; Publicity committee, C. V. Hodder, H. E. Roden, E. D. Hoy; Reception committee, L. Morrison, W. T. Filey, J. B. McGregor, R. K. Northey, G. E. Reid, W. M. Eager, Roy Tresidder, George Boehmer, A. G. Hacker, W. E. Frankish, W. J. Miller, John Sperling, J. R. Marshall, F. Cannon, A. W. Augustine; Sergeant-at-Arms, W. J. Hood, W. Logie.

Accidents in Paper Box Plants

F. W. Fisher, of the Fisher Paper Box Company, Ltd., Toronto, representative of the Ontario paper box industry on the Ontario Workmen's Compensation Board, has prepared a report on the accident record for the past year in the paper box industry in the province. During the year there were no costly accidents and while the total number of accidents is slightly higher than that of the previous year, in severity and money cost they appear to be about the same. The total accidents, 76 in number, were divided between male, 52, and female, 24. About 70 per cent of the accidents during the year happened to employees between the ages of 14 and 21. Continuing the report says: "I think there is considerable food for thought here, and it is quite apparent that carefulness comes with maturity. Mechanically speaking the greatest number of accidents are still caused by the platen cutter and creaser, and while during 1929 the accidents reported do not indicate any great degree of severity or high cost, nevertheless there have been about eight accidents during the year, with one or two accidents resulting in loss or dismemberment of fingers."

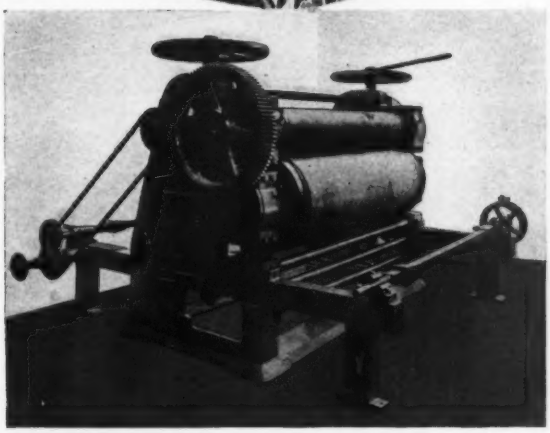
Opposes Discriminating Pulpwood Laws

Porcupine Pulp and Lumber Company, Ltd., Niagara Falls, N. Y., who do a large pulpwood business in Ontario, have issued the following statement concerning their views on the proposed pulpwood embargo on Canadian pulpwood: "The press recently reported that the Hon. Georges Parent, M.P., planned to introduce a resolution calling for an embargo or exportation duty on pulpwood, coupled with such legislation, if necessary, as would assure settlers a fair remuneration for the wood taken from their lands. As a producing Canadian pulpwood company, as a member of the Canadian Pulpwood Association, and as individuals, we wish to go on record as opposed to any such discriminating legislation. Mr. Parent's proposal is in direct contradiction of the rights of private property holders, and it is against these private property holders that Mr. Parent's proposal is directed. Eighty-five per

Advanced Paper Designs Should Be Processed With

WALDRON EMBOSSING

Machines and Rolls



Waldron Heavy Duty "Centennial" Embossing Machine

Embossing, as a paper converting art, has benefited in many ways as a result of major improvements in the quality and appearance of the finished effects now procurable. These advances have made embossed papers not only more popular but more economical to produce. Waldron Embossers have been designed and constantly improved to accomplish this double objective.

The best assurance of profitable embossing is the combination of Waldron machinery and Waldron Rolls. From a standpoint of speed, performance, uniformity of output, low maintenance cost and long service, this combination affords the utmost in efficiency and economy. Modernizing your embossing equipment can prove a splendid investment for you.

Have you thoroughly investigated possibilities for added profits from your embossing? Consulting our engineers puts you under no obligation. Write us.

JOHN WALDRON CORPORATION

MAIN OFFICE AND WORKS, NEW BRUNSWICK, N. J.

NEW YORK
122 East 42nd Street

CHICAGO
208 W. Washington Street

PORTLAND, ORE.
519 American Bank Bldg.

WALDRON

Paper Converting Machinery

cent of Canada's timber area is owned in right of the Crown, and pulpwood cut from such areas cannot be exported; only pulpwood cut from the small remainder of 15 per cent, consisting of freeholds and settlers' lots, can now be exported. Any embargo or exportation duty on pulpwood from these lands will practically leave the owner without a market for his wood, regardless of the intention of the Government to regulate the price. Any embargo or duty will throw the jobber or producer on the mercy of the Canadian paper mills. There are already too many paper mills in the country. It is common knowledge that there is an over-production of paper so that the majority of the mills are operating at about 75 per cent of their capacity. Where will the freehold and settler producer find a market, and how can he be protected in the face of such a situation? Instead of closing the best market to these producers, the honorable member could accomplish good instead of evil by directing his efforts toward opening up further markets."

Prominent Pulpwood Man Dead

After a lengthy illness death claimed this week J. B. Kemp, one of Pembroke's best known business men. While he was at first in the grocery business he branched out into the pulpwood trade, his connection being an accountant with Flatt & Bradley of Hamilton. Later he formed a joint stock company to operate in the lumber and pulpwood arena and his activities covered a large territory in Ontario. He was prominent in municipal and business affairs in Pembroke for many years.

Fire Fighting Preparations In Ontario

Captain Roy W. Maxwell, Director of the Ontario Provincial Air Force, is completing arrangements to render the service well prepared for the usual severe spring fire hazard in Northern Ontario's pulpwood areas before the ice is out of the lakes and streams. Two Moth machines, which have been thoroughly overhauled and reconditioned at Sault Ste. Marie base, will be despatched at once, on skiis to Sioux Lookout, from which point they are to be sent out to operating bases—one of them to Kenora and the other to Fort Frances, where they will be equipped with pontoons, and will stand by for the first sign of bush fire. In addition to these precautions, Captain Maxwell has had a machine, piloted by Alexander McIntyre, one of the veterans of the service, winging in and out of Sioux Lookout four and five hours a day, for several days recently, assisting Fire Inspector Stirrett of the Forestry Branch, in organizing his spring fire-combatting program in the Red Lake, Woman Lake and Crow Lake districts.

Notes and Jottings of the Trade

A number of wholesale paper houses in Toronto attended a dinner meeting of the Toronto Typothetae in the Prince George Hotel this week to hear John Deviny, of Washington, D. C., secretary of the United Typothetae of America, deliver an address on "Printing and Advertising—Their Influence in Our Time." There was a lot of interest in the talk both to the printer and the wholesale paper dealer.

The Toronto Carton Club's bowling tournament, which has been in progress throughout the winter months, came to a close on the evening of March 11 when R. A. Dunlop's team, winners of the finals, defeated L. Morrison's team and thus annexed the Bennett trophy. The trophy, together with other prizes donated by the paper and printing trades, were presented at a banquet held in the King Edward Hotel.

E. H. Wilkinson, of the E. H. Wilkinson Company, Ltd., paper mill representatives, has returned from a business trip to the Pacific Coast.

A. J. Brookover Elected Director

At a special meeting of the stockholders of the Downingtown Paper Company held February 20, 1930, A. J. Brookover was elected vice-president and director of the corporation to succeed Walter B. McIlvain, deceased.

Air Photography for Foresters

A course in air mapping has just been organized at Syracuse University for students of Applied Science and the New York State College of Forestry. This course will be under the direction of the Airplane Photographic Department and is probably the first of its kind to be started at a university as part of the regular curriculum. The course is being financed under an endowment totalling approximately $60,000 from the Guggenheim Foundation for the promotion of aeronautics.

The importance of developing a course of this kind in forestry has been demonstrated by some of the large timber estimating projects of the West and in the Canadian forests. It is possible to make photographs from an airplane that will give the experienced forest engineer and reader of aerial photographs an idea as to the approximate amount of timber on a particular area as well as the types of forest, the topography of the country and the best routes over which ground cruising parties may be directed. By the use of airplane maps much of the former tedious work of ground survey has been obviated. It is now possible for ground parties to obtain data on a small area of timber and apply this data to the aerial maps over large tracts wherever the map reveals that type of forest.

The new course is headed by Prof. S. D. Saranson. Others on the staff are Prof. Leon B. Howe, instructor in drawing, Prof. Leroy A. Mullin and Prof. Earl F. Church, formerly with the United States Coast and Geodetic Survey.

Heller & Merz and American Cyanamid Merge

The Heller & Merz Company, Newark, N. J., has just sent out the following notice:

"Because of the many benefits to be derived through the consolidation of our operations with those of a company so well established in large scale production of raw materials and intermediates, we are greatly pleased to announce the merging of our interests with those of The American Cyanamid Company.

"They are, of course, one of the country's great chemical manufacturing organizations and also, through their subsidiaries, are important factors in organic intermediates essential to the dyestuff business.

"Our business will continue under the name of The Heller & Merz Company and with the same personnel—and orders should continue to be forwarded to our main or branch offices as in the past.

"The manufacture of our products will be closely coordinated with those of The Calco Chemical Company, Inc., and the Research and Development Laboratories of the two companies will be consolidated.

"Mr. Eugene Merz and Mr. August Merz, who have headed this business for so many years, will also partake in the Calco management and thus be able to extend the scope of their abilities and unify the efforts of both companies."

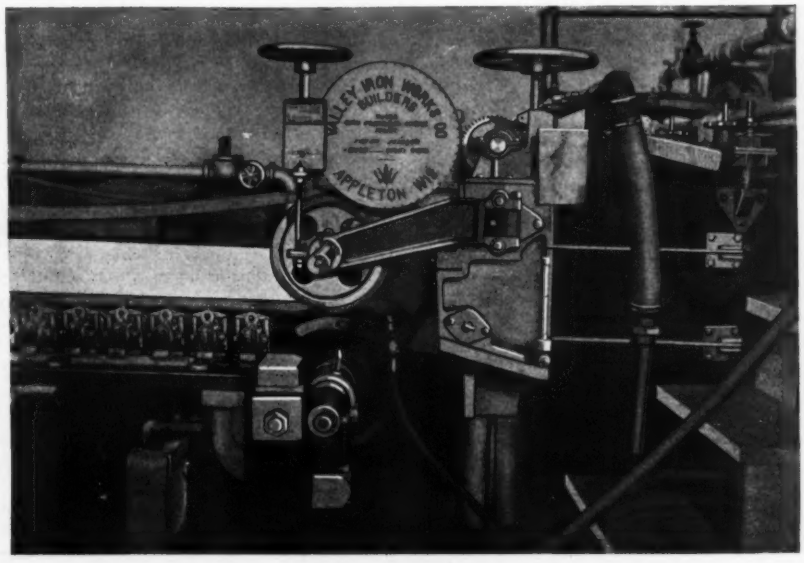
Paper Distributing Co. Starts at Knoxville

KNOXVILLE, Tenn., March 10, 1930.—A new jobbing concern, The Paper Distributing Company, has opened business here in the five-floor building on Jackson avenue near Central street, formerly occupied by Knoxville Paper Company and other firms.

The Paper Distributing Company has taken a long lease on the entire building, W. A. Mower, general manager, announced last week. Mr. Mower and H. C. Bowers own the new concern and are to be executive heads under the charter which is being asked.

Mr. Mower moved here recently from St. Louis where he spent years in the paper jobbing field, and has bought a home at 2215 West Clinch avenue. Mr. Bowers, the junior partner, formerly was associated with large wholesale firms here.

The Paper Distributing Company is distributing coarse paper supplies and specialties to merchants in Knoxville and within a radius of 100 miles. Its lines include wrapping papers, towels, and lines of paper containers, tissues and novelties.



FOR
HEAVY PAPERS
AT
SLOW SPEEDS

ANOTHER IMPROVEMENT
—the 1930 VOITH INLET

Are you making heavy paper at slow speeds?

Then you will be very much interested in the new, improved 1930 Voith High Pressure Inlet. Through the development of a sloping bottom and other new features of construction .... this famous inlet now offers you all the advantages of operation on heavy papers at slow speeds that it does on lighter papers at high speed.

Now, more than ever, the Voith Inlet has proved its right to be on every Yankee, Harper and Fourdrinier machine. Now, more than ever, you should investigate its ability to give you better formation .... longer wire life .... better control of weight uniformity .... more accurate control of orifice .... and other distinct advantages which contribute to the production of finer paper at a wider margin of profit.

There are two ways to investigate: either ask any of the 138 mills who are using Voith Inlets or write the Valley Iron Works Co., Appleton, Wisconsin for complete information.

Certainly now is a time when every penny saved in production counts more than ever before. And wise manufacturers are sensing the real, money-saving advantages of replacing their obsolete, profit-devouring machines with modern, profit-paying equipment.

VALLEY
Equipment for Paper and Pulp Mills

New York Office: 350 Madison Ave.
Western Manufacturing & Sales Division: Smith & Valley Iron Works Co., Portland, Oregon
Canadian Representatives: Pulp & Paper Mill Accessories, Ltd., Montreal, Canada.

New York Trade Jottings

The Gibbs-Brower Company, Inc., of New York, have obtained selling rights for the United States for the Albert Bolle & Jordan Paper Shredding Machine. This machine is adaptable to making Paper Excelsior, a product now in increasing demand, from all grades of paper, either from rolls, sheets or waste papers, other than soft blotting paper.

* * *

Harold R. Hopkins, of the Oxford Paper Company, has been appointed chairman of the Paper Manufacturers and Dealers Division for the annual maintenance appeal of the Salvation Army. The Army this year is appealing for $525,000 with which to support its 52 institutions. The appeal will be concentrated in the period from April 28 to May 12.

* * *

The Joint Committee on Approved Pulp Testing Chemists for the Paper Industry of the United States, with headquarters at 18 East 41st street, New York, announces that James C. Johnson, of the Container Corporation of America, Philadelphia, Pa., has been accepted by the committee as an approved mill pulp testing chemist and is listed as such, effective March 14, 1930.

* * *

King & Shepherd, 50 Church street, New York, have been appointed distributors for the Manhattan district, of the Mason Regulator Company, general offices and plant, Dorchester Center, Boston, Mass. The line consists of all the newest developments in pressure control apparatus. Both Mr. King and Mr. Shepherd are technical men and salesmen and are able to offer expert engineering advice in the solution of the pressure control problems.

* * *

The Lily-Tulip Cup Corporation has added another eight-hour shift to keep pace with current demand for its products, putting the company's plants on a 24-hour basis. In the hiring of personnel Henry Nias, president, stated that it will be the policy of Lily-Tulip to limit additional help to married men, believing that it is advisable to distribute employment so as to bring the greatest benefit to the greatest number.

* * *

L. D. H. Weld, of the H. K. McCann Company, advertising agents, was the principal speaker at the regular weekly luncheon and meeting of the New York Division of the Salesmen's Association of the Paper Industry, held at the Fraternities Club, New York, last Monday. Mr. Weld discussed the Scientific Basis of Sales Quotas in a very comprehensive manner. He illustrated with a series of charts the use of the correlation method and showed how his organization worked out a general buying power index by counties for the whole country. Preceding Mr. Weld's interesting and instructive address, J. A. C. Kavanagh, statistician of the American Paper and Pulp Association, discussed briefly business conditions in the paper industry in relation to general business conditions.

American Tissue Mills in Canada

HOLYOKE, Mass., March 11, 1930.—The American Tissue Mills, Inc., has obtained a branch plant in Montreal to care for its Canadian trade. The concern does a large business with the American chain stores which are now being developed in Canada. Vice President William H. Bond and Attorney Thomas C. Maher returned recently from a trip to Montreal. Their new building is secured by a lease; it is three stories high and 300 feet long. It is expected that it will be ready for operation by May 1.

New L. L. Brown Agent

The Whitaker Paper Company of Washington, D. C., has been appointed an agent in that territory for Brown's Linen Ledger, the permanent record paper made by the L. L. Brown Paper Company of Adams, Mass.

Merrimac Chemical Plant Burned

BOSTON, Mass., March 17, 1930.—A fire from undetermined origin broke out at the Everett Plant of Merrimac Chemical Company, Inc., in the early morning of March 14.

Spreading rapidly the flames destroyed two chamber acid plants, an alum plant and several small shop buildings. The power house and office building were damaged severely.

A wind of high velocity threatened further damage, but the fire departments from ten cities and towns co-operated in preventing additional losses.

Despite the extent of the fire, the company has been able to notify its customers through newspaper notices that there would be no interruption or delay in deliveries or in service, and has fulfilled this promise. Merrimac appreciates very much the immediate offers of assistance from all its competitors.

The company loss is fully protected by insurance, and reconstruction work has already started.

Unemployment Serious at Hudson Falls

[FROM OUR REGULAR CORRESPONDENT]

HUDSON FALLS, N. Y., March 15, 1930.—The unemployment situation here has become alarming and many paper mill hands are reported out of work. The recent shutdown of Mill No. 5 of the Union Bag and Paper Corporation has only aggravated a situation already serious and many residents are already planning to seek positions in other localities. When the mill shut down it was announced that operations would be resumed in a week but the employees are still idle. Officials of the paper company said that there had been no change in the situation although the plant would probably be in full operation soon. The municipality has started a campaign to attract new industries as a means of remedying the situation.

James Quigley Leaves Logan-Long Co.

[FROM OUR REGULAR CORRESPONDENT]

DAYTON, Ohio, March 17, 1930.—James Quigley, general manager of the Logan-Long Company at Franklin, 17 miles south of this city, has just disposed of all of his interests in the paper manufacturing company, it is understood and will retire from active business.

Mr. Quigley has been in ill health for some time and expects to devote most of his time in the immediate future, at least, to the recovery of his health.

During the past week he was a patient in City Hospital, Middletown, but he planned to go to Florida as soon as his strength permitted.

Fire Damages A. L. Adams Paper Mill

BALDWINSVILLE, Mass., March 10, 1930.—Fire of undetermined origin which gutted the engine room of the A. L. Adams Paper Company here on Monday morning of last week, caused damage estimated at $50,000, covered by insurance.

Most of the damage was to papermaking machinery. The engine room was in the old plant, a wooden structure. The fire burned into a newly constructed tile addition, where machinery was damaged, but the fire was under control within two hours.

Apparatus from this village and Otter River responded to the alarm.

The plant will be closed two weeks, pending repairs.

Miracle of Mulch Paper

The Mulch Paper Division of the International Paper Company has just issued the ninth edition of "The Miracle of Mulch Paper and the Gator-Hide Mulch Paper Planting Manual," which has been thoroughly revised. This interesting booklet demonstrates the usefulness of mulch in a very convincing manner and is profusely illustrated.

Before Merging

Not long ago, we appraised the property of a corporation which had just effected a merger with an equity based on a nine million dollar plant valuation. The plant actually appraised at twelve million dollars. Failure to have the appraisal before merging was a three million dollar error in judgment.

There is a particular necessity for American Appraisals for mergers in the pulp and paper industry: Property units are large and costly; accounting practice has often been ultra-conservative with a consequent writing down of fixed assets through excessive depreciation and through charging of capital items to expense; many mills were constructed at price levels far beneath those of today.

American Appraisals present a means of establishing the facts uniformly for all merging properties. Replacement costs, depreciation, and the value of each unit to the merged enterprise are all determined impartially and authoritatively.

The American Appraisal Company's thorough familiarity with paper and pulp mill properties is based upon experience covering the appraisal of more than four hundred mills.

THE AMERICAN APPRAISAL COMPANY

Atlanta	Charlotte	Detroit	Minneapolis	Portland, Ore.
Baltimore	Chicago	Indianapolis	New Orleans	San Francisco
Boston	Cincinnati	Kansas City	New York	Seattle
Buffalo	Cleveland	Los Angeles	Philadelphia	St. Louis
Chattanooga	Dallas	Milwaukee	Pittsburgh	Syracuse
	Washington	Berlin, Germany		Tulsa

Canadian Appraisal Company, Ltd., Montreal, Toronto and Winnipeg
The Anglo-American Appraisal Company, Ltd., London, England

AN INTERNATIONAL ORGANIZATION

CONSTRUCTION NEWS

A Summary of Vital Facts Regarding Construction, Finances and Operation of Paper Mills

Construction News

Lockport, N. Y.—The Upson Company, Stevens street, has approved plans for the construction of an addition to its paperboard and wallboard plant, consisting of a two-story unit, reported to cost over $40,000, with equipment. A portion of the building will be used for the research laboratory, with mechanical facilities on ground floor and chemical experimental department on the second floor. Portion of present plant now given over to these divisions, will be used for production and additional equipment installed.

Baltimore, Md.—The Hinde & Dauch Paper Company, Sandusky, Ohio, manufacturer of corrugated paperboard products, containers, etc., is said to be arranging plans for the early construction of a new branch plant at Baltimore, primarily for the manufacture of containers, reported to cost over $50,000, with machinery.

Philadelphia, Pa.—The Philadelphia Paper Tube Corporation, care of W. James MacIntosh, 2107 Fidelity-Philadelphia Trust Building, now being organized by local interests, is said to be perfecting plans for the early establishment of a local plant for the manufacture of paper tubes, paper boxes and kindred containers.

Monroe, Mich.—The Consolidated Paper Company, East Elm street, has awarded a general contract to W. H. Knapp, Telegraph Road, for the erection of a one-story addition, previously referred to in these columns, to be used for storage and distributing service, replacing a unit destroyed by fire a few months ago, with loss of about $150,000. Forster, Wernert & Taylor, Nicholas Building, Toledo, Ohio, are architects and engineers.

Berlin, N. H.—The Brown Company, Berlin, is disposing of a bond issue of $5,000,000, a portion of the fund to be used for general expansion and improvements in plants. Work is under way on such a program at sulphate pulp mill at La Tuque, Quebec, and company is reported to be arranging for an expenditure of more than $300,000 at New Hampshire mill. H. J. Brown is president.

San Francisco, Cal.—The Consolidated Paper Box Company, 346 First street, has leased a three-story concrete building, 80x120 feet, at Brannan and Gilbert streets, and will remodel and equip for a new plant. Plans are under way for improvements at the office of O'Brien Brothers, 315 Montgomery street, San Francisco, architects, and work will be placed under way at an early date. The company will arrange for increased capacity at the new location.

Bogalusa, La.—The Bogalusa Paper Company is awarding contracts for equipment to be installed in new mill addition, now in progress, including paper-making machine and auxiliaries. The expansion is estimated to increase the present capacity about 30 per cent, and is expected to be completed early in the fall, when immediate production will be placed under way.

Los Angeles, Cal.—The Hollywood Paper Box Company is arranging for a financing program, including issuance of additional common stock to make a total of 18,750 shares outstanding, of 62,500 shares which have been authorized. A portion of the proceeds, it is said, will be used for plant expansion for increased output.

Brooklyn, N. Y.—The Imperial Paper Box Corporation, 495-505 Sackman street, is said to be arranging an early call for bids on general contract for the erection of proposed new addition to mill at location noted, reported to cost close to $55,000, with equipment. Increased capacity will be carried out. S. J. Fox, 66 Court street, Brooklyn, is architect, in charge.

Hamilton, Ohio—The Champion Coated Paper Company has approved plans for the complete electrification of its mill, replacing all present steam-operated equipment and facilities, and will proceed with the program at once. The improvement is expected to develop considerable increase in operating efficiency. A contract for motors, controls and other electrical equipment required for the work has been let to the Westinghouse Electric & Manufacturing Company, East Pittsburgh, Pa.

North, S. C.—The American Fibre Corporation, recently organized by J. C. Saunders, North, and associates, with capital of $20,000, is said to be planning the operation of a new mill in this vicinity. R. C. Beach, North, is also interested in new organization.

Chicago, Ill.—At the annual meeting of the Container Corporation of America, 111 West Washington street, Chicago, scheduled on March 27, it is proposed to arrange for an increase in capital from 600,000 to 2,000,000 shares of stock, no par value, a portion of the fund to be used for increase in operations, including the acquisition of other paper box and container manufacturers. Walter P. Paepcke is president.

Long Island City, N. Y.—The Lily-Tulip Cup Corporation, 122 East 42nd street, New York, is developing maximum capacity at its paper goods manufacturing plant, in the line of paper cups and kindred specialties. Another 8-hour shift has been added at the mill, placing the plant on a full 24-hour working schedule, with maximum working force in all departments of output. Henry Nias is president.

East Walpole, Mass.—Bird & Son, Inc., manufacturer of paper, paper roofing, fiber cartons, etc., is running on regular production schedule, giving employment to normal working quota in different departments. During the past year the company showed a record volume of shipments, totaling about 15 per cent in excess of the previous twelve months' period. P. R. Allen is president.

Boston, Mass.—The F. S. Webster Company, 340 Congress street, manufacturer of carbon papers, typewriter supplies, etc., has plans under way for the erection of a new manufacturing plant at Wadsworth and Hayward streets, Cambridge, Mass., reported to cost more than $80,000, with equipment. It is expected to proceed with superstructure at an early date. Densmore, LeClear & Robins, 31 St. James avenue, Boston, are architects.

Edmundston, N. B.—The Fraser Companies, Ltd. are completing an expansion and improvement program at different mill properties under way for a number of months past, providing for considerable increase in output of bleached sulphate pulp and finished paper stocks. The last unit of the work comprises a pulp

IN THE VANGUARD OF PROGRESS

B·C SPIRAL BEVEL GEAR DRIVE

B·C PRESS ROLL SECTIONS

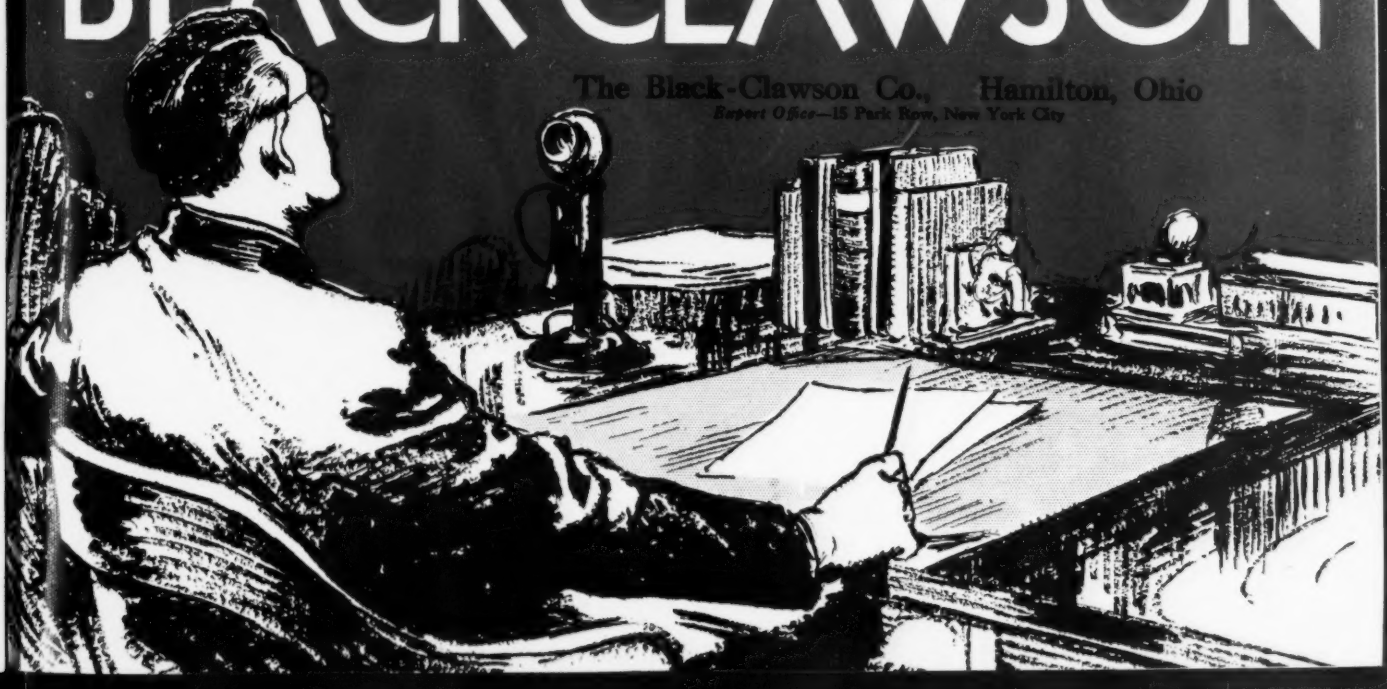
B·C VERTICAL DRYERS

CHAMPION FOURDRINIER

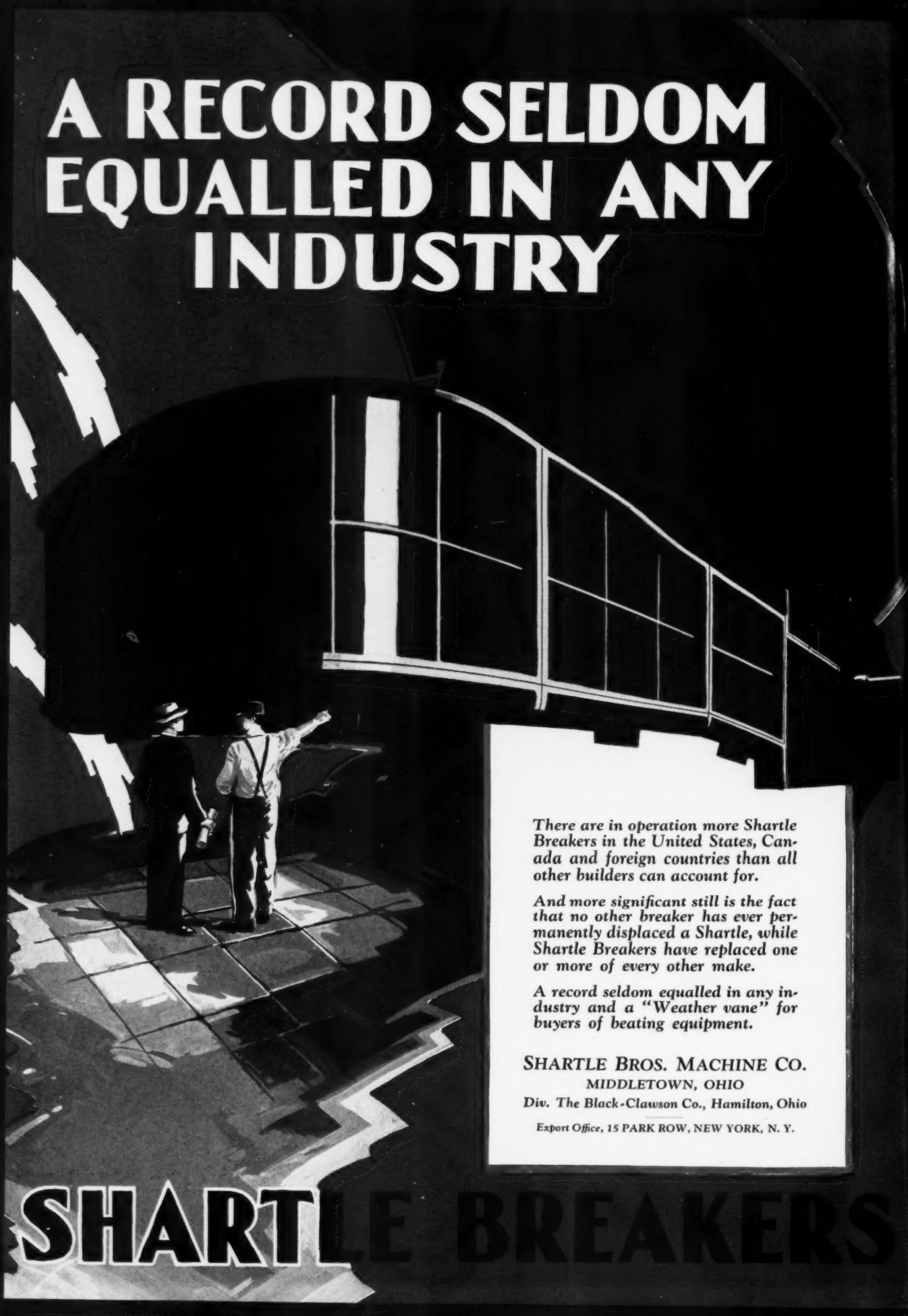
BLACK-CLAWSON

The Black-Clawson Co., Hamilton, Ohio

Export Office—15 Park Row, New York City



A RECORD SELDOM EQUALLED IN ANY INDUSTRY



There are in operation more Shartle Breakers in the United States, Canada and foreign countries than all other builders can account for.

And more significant still is the fact that no other breaker has ever permanently displaced a Shartle, while Shartle Breakers have replaced one or more of every other make.

A record seldom equalled in any industry and a "Weather vane" for buyers of beating equipment.

SHARTLE BROS. MACHINE CO.
MIDDLETOWN, OHIO
Div. The Black-Clawson Co., Hamilton, Ohio

Export Office, 15 PARK ROW, NEW YORK, N. Y.

SHARTLE BREAKERS

mill of the Restigouche Company at Athol, N. B., which is now nearing completion, and which is scheduled to be placed in service within a few weeks. This plant will have a rated output of 150 tons per day, and will be developed to maximum capacity with full working force.

St. John, N. F.—William Randolph Hearst, head of the Hearst Corporation, Eighth avenue and 57th street, New York, and the *New York Evening Journal*, is said to be at the head of a project to construct and operate a new mill for the production of news print in Newfoundland. The Newfoundland Legislature is understood to have approved the underwriting of a bond issue of $15,000,000 by the Government of Newfoundland, to be used in connection with the project, which is reported to represent an ultimate investment of more than twice that sum. The proposed mill will be developed for a capacity of about 1,000 tons of news print per day, including pulp units of corresponding output. In connection with the project it is proposed to construct a hydroelectric power plant with an initial rating of approximately 200,000 h.p. to be used for service at the mill.

Norrkoeping, Sweden—Holnens Papper Bruk, Norrkoeping, is said to be planning the early rebuilding of portion of local paper mills, destroyed by fire March 11, with total loss reported in excess of 3,000,000 kroner (approximately $810,000). The fire originated in the machine department of one of the mills and spread rapidly to different producing units.

F. A. Juckett Leaves Old Colony Envelope Co.

[FROM OUR REGULAR CORRESPONDENT]

WESTFIELD, Mass., March 18, 1930—Frank A. Juckett, president of the Old Colony Envelope Company which he founded about 10 years ago has tendered his resignation to take charge of the operation of the Hurlbut Paper Company plant at South Lee. It is expected that at the meeting of the stockholders in about two weeks John D. Zink of Longmeadow will succeed him.

Previous to organizing the Old Colony Envelope Company Mr. Juckett was with the Strathmore Paper Company. During the past year the Old Colony plant has been enlarged so that its floor space was tripled and the number of its employees doubled there being about 400 on the payroll at the present time.

The Hurlbut Paper Company plant was one of the paper mills taken over when the American Writing Paper Company organized. That company planned to manufacture photographic paper but finally closed it down and sold it to Paul Zuelke an importer and manufacturer of papers who spent some money but also failed to reopen it. With Mr. Juckett will be associated his son J. Walter Juckett and J. Wesley Jocelyn for some years an officer of the Old Colony company.

Paper production in South Lee began in 1806 when the second mill opened in Berkshire county was erected by Samuel Church. For years the mill was run by Owen & Hurlbut and for many years thereafter by the Hurlbut Paper Company. It is expected that when it gets to full operation between 100 and 200 hands will be employed.

Imperial Wall Paper Co. Builds Warehouse

[FROM OUR REGULAR CORRESPONDENT]

GLENS FALLS, N. Y., March 10, 1930.—A new addition to the plant of the Imperial Wall Paper Company has been virtually completed and a portion of the structure is now in use. The new structure is five stories high and will be used for warehouse purposes. The building is 145 by 60 feet, located on the south side of the company's property where the railroad facilities simplify the shipment of products. It has been under construction for several months and is the largest building project completed here in a long period.

It was announced that completion of the structure will not necessitate the hiring of additional workers. It will be used entirely for storage purposes and all manufacturing will be confined to other buildings at the plant.

Canadian Paper Exports Decrease

According to the report issued by the Canadian Pulp and Paper Association, exports of pulp and paper from Canada in January were valued at $16,006,342. This was a decline from the December total, of $804,538 and was less than the total for January 1929 by $129,856.

Exports of woodpulp for the month amounted to $3,923,584, an increase of $540,000 over the previous month's total. Exports of paper in January were valued at $12,082,758 which was a decline of $1,355,196 from the previous month and $408,286 below the total for January 1929.

Details for the various grades of pulp and paper are as follows:

	January, 1930		January, 1929	
PULP:	Tons	$	Tons	$
Mechanical	21,820	650,696	16,771	420,062
Sulphite bleached	21,619	1,681,630	23,328	1,773,913
Sulphite unbleached	20,056	993,102	14,590	732,446
Sulphate	9,604	556,509	11,306	675,669
Screenings	2,211	41,647	2,187	43,064
	75,310	3,923,584	68,182	3,645,154
PAPER:				
News print	199,773	11,609,926	195,047	11,973,615
Wrapping	1,199	128,276	1,258	132,838
Book (cwts.)	4,040	32,992	5,517	49,147
Writing (cwts.)	106	717	21	740
All other	.....	310,847	.....	334,704
	....	12,082,758	.....	12,491,044

Pulpwood exports increased sharply in January to 120,063 cords valued at $1,135,348 as compared with 67,116 cords valued at $94,955 in December and 70,536 cords valued at $649,837 in January 1929.

Japanese Paper Production

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., March 15, 1930.—The Japanese Paper Manufacturers' Association reports production of paper by the mills of the association during 1929 at 709,094 short tons and sales at 689,616 tons, the former representing an increase of 52,216 tons and the latter of 43,317 tons over the total for 1928.

Nearly one half of the total output consisted of news print paper, other printing papers ranking second and "torinoko" ranking third in importance. Consumption of raw materials by the mills is reported at 335,183 tons of chemical pulp, 242,533 tons of mechanical pulp, 34,437 tons of waste paper, 11,074 tons of rags, and 9,523 tons of straw. A total of 57,945,990 cubic feet of lumber were employed in the manufacture of 244,584 tons of chemical pulp and 236,446 tons of mechanical pulp, the remaining amounts being purchases from other mills or imported pulp.

Palouse Offers Preferred Stock

[FROM OUR REGULAR CORRESPONDENT]

PORTLAND, Ore., March 14, 1930.—The Palouse Pulp and Paper Company which has a plant site and tentative plans for a new plant at Palouse, Wash. in the heart of the large wheat belt, is offering a preferred stock issue through Savage, Johnson & Cooper, Inc. of Portland.

The Palouse Pulp and Paper Company has applied for a patent on the Wagnon process of cooking wheat straw pulp invented by H. D. Wagnon, an official of the company, who has a small demonstration plant. At present he is giving demonstrations at Washington State College at Pullman and later the same program of demonstration will be carried out at the University of Idaho. The company plans to make the pulp for paper production from the wheat straw process.

Pacific Straw Board Install Motor

[FROM OUR REGULAR CORRESPONDENT]

PORTLAND, Ore., February 27, 1930.—The Pacific Straw Paper & Board Company, Longview, Wash., is installing among its other new equipment a 500-horsepower electric motor to operate the wood grinder. The wood mill unit to this plant is to be built late this summer.

POWER PLANT SECTION

REDUCING POWER COSTS THROUGH UNIT TREATMENT

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The Ash Handling Problem

A Burden of Millions

It actually costs the pulp and paper mills of this continent several million dollars annually simply to handle and dispose of ash refuse. Such burden, moreover, does not take into account the costly damage to the mills' marketable output or the truly stupendous toll in upkeep and maintenance expenses of all kinds in which the abrasive action of the ash dust and the highly corrosive action of wet ashes and leach water are very active contributory factors. The total impost is a matter which simply defies proper appraisal and is one which most certainly hampers the industry with a yearly burden running well up into the millions.

Few, if any, of the mills really know the extent of their individual ash bills, although there is now a gradual awakening to the fact that great sums are wasted and that the ash handling systems employed in the past should no longer be countenanced. Unfortunately, so little is really known concerning the economic aspects of the problem that it is exceedingly difficult to demonstrate the superiority of one system over another in simple monetary units. The itemized expenses, direct and indirect, are not known and without some dependable conception of what these figures may aggregate the justification for an investment in a modern system of ash handling is hard to determine.

Even when a superior system of ash handling is installed, the economies may not be at once apparent, or it might be better to say that they are not necessarily obvious. In a mid-western paper mill where a modern system of ash handling was substituted for the antiquated practice of raking the ashes out onto the boiler room floor, wetting them down with a hose and then carting them off in a wheelbarrow, the plant superintendent stated: "While we have not reduced our ash handling cost, we have lightened the burden on the fire room crew which was entirely too severe before the installation of this equipment." Nevertheless, marked satisfaction is found with the system, for it is highly recommended by the mill and its operation has been demonstrated to visitors with a good deal of pride. Another mill which has installed a similar system states that the ash handling equipment is functioning very satisfactorily, but is also apparently reluctant to admit any reduction in ash handling costs.

In neither of these cases has it proved feasible for the mills to lay off any men and apparently this inability to reduce the size of the boiler room crew is interpreted as evidence that ash handling costs have not been reduced. A decided lightening of the labor involved is admitted, however, and the mills have been rid of the dust, steam and fumes which were objectionable and quite costly under the old wheelbarrow method of handling the ashes. A fair valuation placed on these improvements would doubtless show that ash handling costs have really been very materially reduced. If there is any question in respect to this contention, it would only be necessary for the mills to give up the use of their improved ash handling systems for a period of six months and return to the discarded wheelbarrow practice of carting the ashes from the power plant. The expense of such an experiment would quickly remove any doubt as to whether savings were realized by virtue of the systems now held to have effected no reductions in ash handling costs.

Courtesy: R. H. Beaumont Co.

FIG. 1

Ash handling skip-hoist rig with storage bin. Both skip and bin deliver either to railroad cars or to trucks.

Appraising the value of the installed systems in any other way, to the satisfaction of the mills in question, would doubtless be quite a difficult proposition and probably would have little effect

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in stimulating interest in modern ash handling systems. The fact that in the design of all recently constructed power plants a good deal of attention has been given to the problem and no little money spent for ash handling equipment, however, is evidence enough that considerable progress has been made in the development of improved and approved methods of ash handling. As the progress has not really been revolutionary as yet, a general review of the developments to date will probably be of greater interest than a more detailed description of any particular system, no matter how satisfactory it may have proved in individual installations.

Admittedly, the successful handling of ashes has been one of the most exacting and baffling of materials handling tasks. The distinctly corrosive characteristics of wet ashes and leach water, the penetrating proclivities of fine ash dust and the fact that ashes have frequently to be handled while still at comparatively high temperatures, even in molten condition at times nowadays, have had the effect of decidedly limiting the varieties of mechanical materials handling systems suitable for the exacting work of ash disposal.

Collecting the ashes from under the various boilers with ash cars and then from some strategic point, usually outside the boiler house proper, transferring the ashes to a bucket elevator or skip hoist rig and elevating the refuse to an overhead storage bin for subsequent disposal by railroad car or truck probably typifies what may be termed one of the first practical ash handling systems. It is one, moreover, which is still employed to good effect in many instances and, despite certain limitations, may be said to consummate the actual handling of the ashes in a very economical manner.

The rapid depreciation and even destruction of chains, bucket connections and of bearings and journals for the necessary shafting, etc., when subjected to the abrasive action of ash dust and the corrosive deterioration of equipment, traceable to wet ashes and leach water, however, proved a costly handicap where bucket elevators were employed and led to the deservedly greater popularity

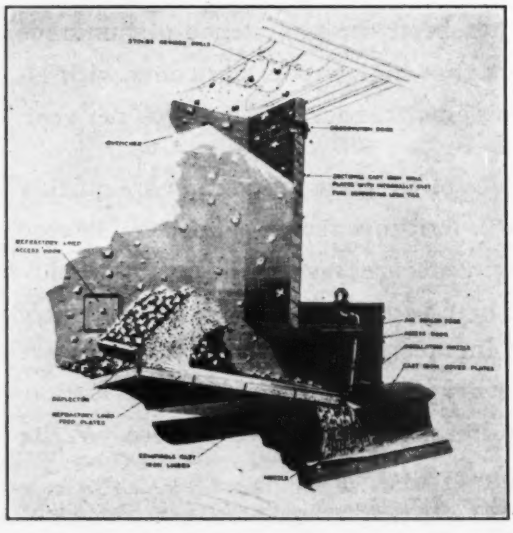

FIG. 2
High-pressure hydraulic sluicing system of ash removal applied to stoker fired boiler.

of the skip hoist rig for elevating purposes. The latter device is well suited to the exacting task of handling ashes, the operation being usually more or less intermittent, for with a skip hoist rig a minimum of wearing parts are subjected to the destructive action of ash dust. Also, as such rigs have proved highly efficient and economical in the handling of coal to overhead bunker storage and the same skips can be used for ashes when not engaged in elevating fuel, it is quite feasible to keep the equipment investment in ash handling devices at quite a nominal figure by using the same system for the two services. The skip hoist rig may be made semi-automatic or fully automatic in operation, under push button control, leaving very little to be desired in respect to economy and convenience in the matter of elevating the ashes.

The collection of ashes from under the boilers has likewise

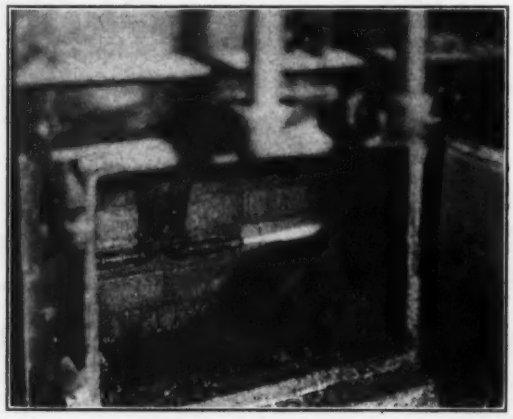

FIG. 4
Oscillating feed nozzle of high pressure hydraulic sluicing system showing water jet in action and size of ash material transported.

passed through stages of development and refinement. Industrial ash cars have been replaced by weigh lorries and more convenient carriers, propelled by hand or power, and these have been instrumental in effecting some quite marked improvements. The development of so-called water ash gates for collecting and handling the ashes from hoppers below the boiler furnaces to lorry cars or

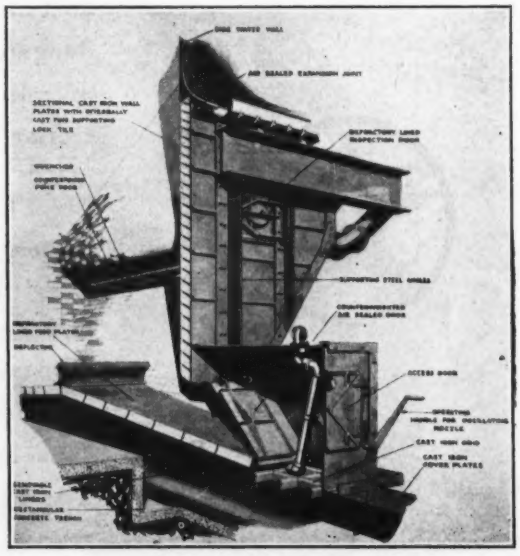

FIG. 3
High pressure hydraulic sluicing system of ash removal applied to pulverized coal fired boiler with water cooled furnace walls.

other collection conveyances, for example, is noteworthy. In some cases, these ash gates have even been employed to load directly into freight cars run under ash pits of several hundred tons capacity.

Systems such as these stand out as examples of very decided progress in ash handling methods, one of the most important improvements being the transference of the most objectionable features of the task from the boiler room floor to galleries and tunnels below the boilers. Conditions in the boiler room proper have

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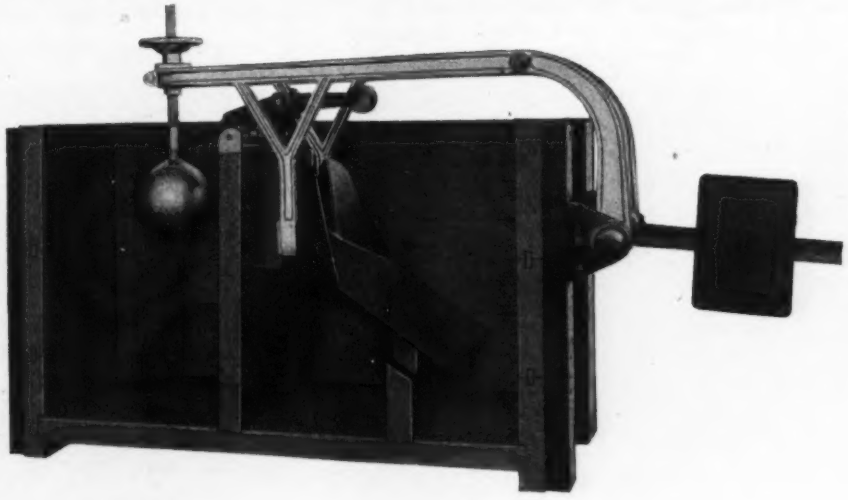

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thus been made infinitely better and the burdens of the boiler tenders greatly lightened, but in the ash tunnels conditions are frequently decidedly bad. Building costs, attributable to making provisions for such ash handling systems, mount sharply and such increase is in reality chargeable in large part to the cost of handling ashes. Also, schemes such as that of running railroad cars under the boilers to reduce handling operations, excellent in individual installations, are far from being generally applicable. Duct, steam and fumes in the ash tunnels, particularly if the passages are small and at all confining, are objectionable, costly and certainly not conducive to pleasant working surroundings.

Enclosed Ash Handling Systems

These quite decided drawbacks, as well as the necessity of eliminating so far as possible the need of personal attendance and of cutting labor costs to a minimum, have led to the development of so-called totally enclosed systems of ash handling, from which the destructive ash dust and corrosive leach water cannot escape and where the temperature of the ashes when handled is a matter of little concern. Mechanical methods of ash handling, even the best, have been displaced in many instances by systems depending upon the rapid rush of air through confined conveyor pipes, or ducts, for transporting the refuse or by high-pressure hydraulic sluicing systems, with decided economies in respect to building costs, betterment in working conditions and lowering of overall ash handling costs.

Systems depending upon the transport of ashes by air conveyance, suction systems, secure the necessary air velocity through the conveyor pipe by liberating high-velocity steam jets within the duct and in the direction of travel or else by air exhausters situated at the discharge end of the conveyor duct. Both means of creating the rush of air from the open intake end of the system are sometimes employed, the steam jets at elbows beyond the loading section of the conveyor duct and an exhauster at the discharge end. In the loading section, ash-intakes are provided at each boiler, to which it is simply necessary to rake the dry ashes after starting the system by opening a steam valve or throwing a control.

These suction ash conveyors, now sufficiently familiar to require no detailed description, typify one of the simplest, most direct and economical systems of ash handling and ash disposal. They

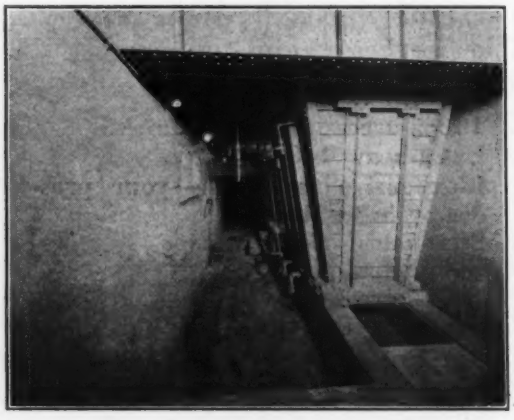

FIG. 5
View of ash-pit hoppers discharging to high-velocity sluiceway.

are particularly adaptable to plants burning up to 125 or 150 tons of coal a day, for which extreme service about the largest of the commercial sizes of suction conveyors is required, one with an 8-inch conveyor duct. In one such plant, equipped with five 600-horsepower boilers, four of the steam generators are operated continuously (24 hours a day) at about 150 per cent of their rating. An 8-inch steam jet suction conveyor serves the entire plant, handling all the ashes and the soot from combustion chambers and stack as well, the refuse being carried an average distance of 230 feet and elevated 56 to an overhead storage bin.

The ashes are removed from the ash pits twice daily in a total of about an hour and forty-five minutes and the soot is collected from the combustion chambers once a week, in about three hours,

FIG. 6
50-ton storage bin to which the ashes sluiced to the refuse sump at the Mead Fibre Company are pumped, from which the ashes are loaded either to freight cars or to trucks for final disposal.

and from the base of the stack three or four times a year. An average of 11.4 tons of ashes are handled in the hour when the system is in operation, entailing the use of 228 pounds of steam. Maintenance expenses for a period of eighteen months, during which time approximately 9,000 tons of ashes were transported by the system, totaled to $41.00, or less than ½ cent per ton of ashes.

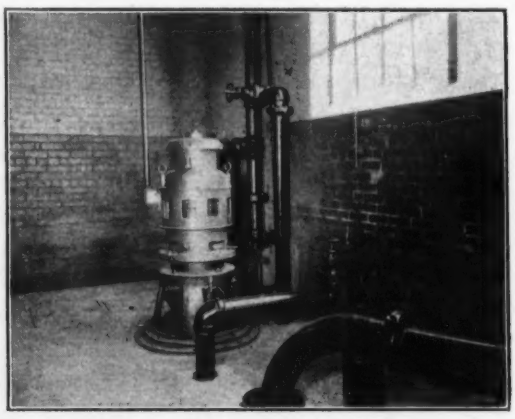

FIG. 7
Type of vertical (centrifugal) pump employed for pumping ashes from sump hole to overhead storage bin or to lowlands for fill.

Valuing the 228 pounds of steam required per ton of ashes handled at the rather high figure of 8.5 cents and charging 50 cents per hour for labor against the time actually consumed in ridding the plant of ashes and soot, the total operating cost of the ash handling system, including all expenses for power, labor and maintenance, amounts to only 14 cents per ton of ashes.

This decidedly low ash handling cost does not take into account fixed charges on the investment entailed for the materials handling

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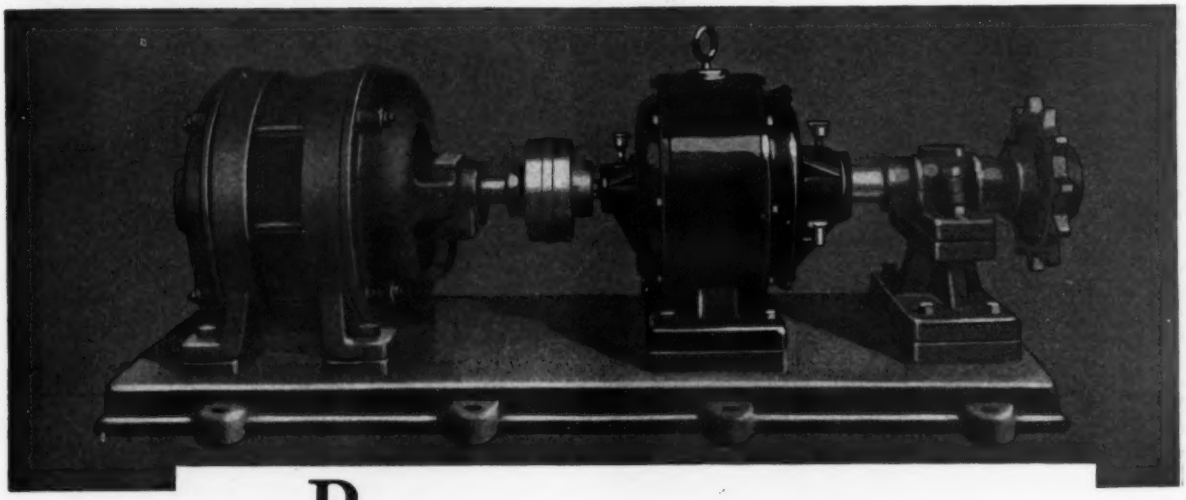

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equipment, nor are any allowances made for possible expenses in connection with disposing of the ashes after they have been placed in a 60-ton storage bin provided for such purpose. Such charges, however, would add very little to the total ash handling costs, for neither the purchase of the conveyor equipment nor its installation in a shallow trough, or even the storage bin itself, entailed any great outlay, while 60 tons of clean, quenched ashes, gathered and placed in a convenient receptacle from which to load freight cars or trucks by gravity twice a week, might prove an asset rather than a liability, a source of revenue instead of a cause for expense.

High-Pressure Hydraulic Sluicing System

The system of ash handling which is probably most in the lime light at the present time, however, is that of the high-pressure hydraulic sluicing method of ash disposal, both on account of its having proved quite uniformly satisfactory and economical and because sixteen or more of the leading pulp and paper mills have adopted the system during the past few years, including one plant (Munising Paper Company, Munising, Mich.) where the ashes are actually handled in molten condition. The system comprehends the suitable storage of the refuse from the boiler furnaces and its discharge periodically into a high velocity water stream in a confined sluicing channel by which the ashes and soot are carried to a centrally located sump or to lowlands for fill. From the sump, the ashes may be pumped to more remote lowlands for fill or to overhead storage bins for subsequent disposal by railroad car or auto truck.

Labor is almost entirely eliminated, in many cases the ashes being handled up to the point of final disposal by means of controls

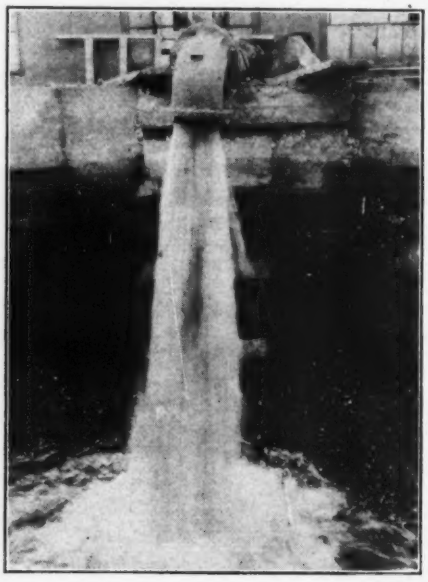


FIG. 8
Discharge of water and ashes to central sump at the Mead Fibre Company's mill at Kingsport, Tenn.

situated on the boiler room floor, and the system being totally enclosed, both dust and water tight, is distinctly cleanly. The ashes are fed into the hydraulic raceway conduit in proportion to the carrying capacity of the water, so any danger of overloading the system is avoided.

The water, supplied under a pressure of about 100 pounds per square inch, provides a flow of approximately 130 feet per second, disposing of the ashes at a rate of close to a ton a minute and providing adequate power for the transportation of a clinker weighing as much as 75 pounds or, for that matter, almost anything that can pass through 12-inch square grids. From 3 to 6 pounds of water under these conditions will carry a pound of ashes and where water has to be husbanded it can be recirculated through the system, 1 pound of makeup water being ample for each 10 pounds of ashes transported.

The various views[1] of high-pressure sluicing operations shown, with their descriptive captions, give a far better idea of the actual operations entailed in this modern method of ash disposal than could be presented in even a lengthy dissertation, but a few remarks concerning a typical installation in service for several years

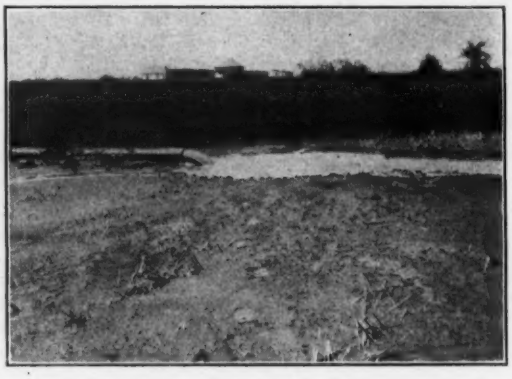


FIG. 9
Filling lowlands half mile from River Raisin Paper Company's mills with ashes pumped from a central sump at the plant.

will serve better to explain how the very low costs of removing ashes and soot by this high-pressure hydraulic sluicing system are attained, costs ranging from 3½ to 15 cents per ton. Incidentally, about a third of such total costs is entailed in the expense of pumping the ashes from the sump to the point of final disposal, an operation which is not always necessary.

Sluicing Ashes at the River Raisin Paper Co.

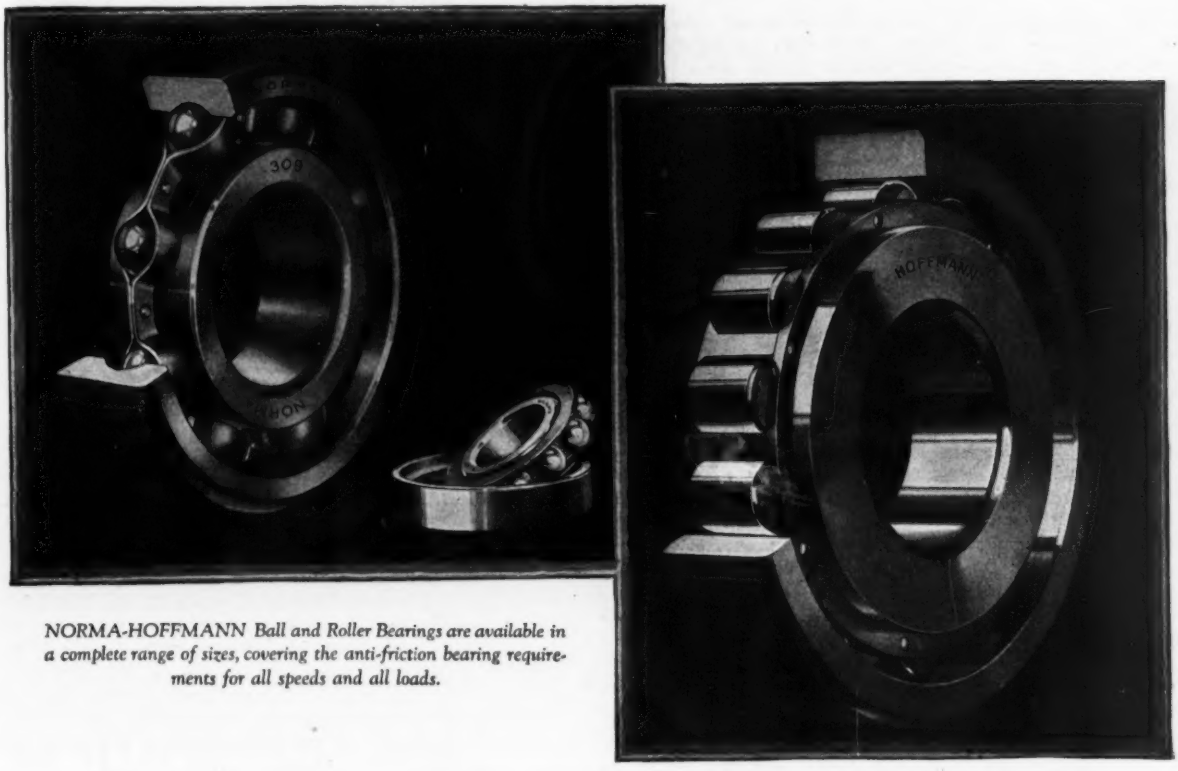
In this connection, the installation at the River Raisin Paper Company, Monroe, Mich., is noteworthy, having been in operation some four years, five days a week, handling about 5,200 tons of ashes annually. This particular system serves four large 1,260-horsepower boilers fired on pulverized coal, which consume between 225 and 300 tons of coal daily. The coal has an ash content of about 12 per cent, explaining how approximately 1,000 tons of ashes have to be disposed of weekly.

The ashes are sluiced to a sump situated within the power plant some 50 feet from the boiler furnaces by the discharge from a 75-horsepower pump. From the sump, the ashes are then elevated 26 feet and pumped a distance of nearly half a mile by a second 40-horsepower pump, the discharge from the pump line serving to fill in distant lowlands. These pump power ratings, however, give no indication of the really low power consumption of the system, for to handle a thousand tons of ashes weekly the pumps have to be in operation a total of only 10 hours. The ashes are removed twice daily by a single operator and each discharge consumes not more than an hour.

A power consumption rate of approximately 1⅛ horsepower-hours per ton of ashes transported close to half a mile, requiring attendance service of only 1/10 man-hours, sets extremely low values upon two of the most potent factors in ash handling costs, power and labor, but these are far overshadowed by the almost phenominal record in regards to upkeep and maintenance expenses. During the four years in which over 20,000 tons of ashes have been transported by the system scarcely a cent has been expended for repairs or replacements. Even the original impeller in the pump subjected to the heavy duty of discharging the ashes to the fill is still in service.

A considerable investment is entailed for an ash handling system of this character and capacity, of course, but the annual savings

[1] Courtesy: Allen-Sherman-Hoff Co.



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in time, money and labor well justify the outlay. Imagine the cost, the confusion and the inconvenience, to say nothing of the hardships, of collecting several hundred tons of ashes daily and transporting them half a mile or so by old fashioned methods. Consider also the dust and damaging dirt such activity would create and the costly interferences with the orderly operation of the steam plant. There is absolutely no comparison. A highly refined and well engineered ash handling systm for the mill power plant of today is absolutely essential for quality mill output at low cost. An investment of several million dollars in modern ash handling systems by the pulp and paper mills of the United States and Canada at the present time would five years hence have effected net savings of very many times such amount.

Possibly the few systems of ash handling which have been discussed do not exemplify the very best attainable a few years from now, certainly not the ultimate approved development, but they will serve to show that the ash handling problem of today is very different from that of even ten years ago and that almost every mill has an opportunity of making a highly profitable investment at the present time. While no particular system is advocated, there being altogether too many pertinent considerations commanding attention, developments to date do indicate that for pulp and paper mills in particular the totally enclosed system of ash handling should be carefully investigated. This applies especially to every pulp and paper mill which today cannot show a capital investment in ash handling equipment of at least a thousand dollars for each ten thousand tons of coal consumed annually. This is, of course, a very arbitrary measure, but it does supply a yardstick by which the mill which has not given recent heed to its ash handling costs can appraise its investment budget in an understanding manner.

Compensation Court Makes Awards

[FROM OUR REGULAR CORRESPONDENT]

CANTON, N. Y., March 3, 1930.—At a hearing in Compensation Court presided over by Judge Richardson a number of injured paper mill workers were granted awards. Daniel Hayes, an employee of the Racquette River Paper Company, was given an award of $289 following examination by physicians for injuries received while working for that firm. An award of $186 was granted Floyd Henigan, who was injured while working at the Pyrites plant of the International Paper Company. The case of John MacArthur, an employee of the Racquette River Paper Company, against the Lumberman's Mutual Company, was closed with an award of about $165. Tom Baylinch, injured while working at the Gouverneur plant of the International Paper Company, was compensated for time lost and the case continued for treatment.

The parents of Roy Cring, who was killed in September while working in the plant of the Harrisville Paper Company, will each receive twenty-five per cent of their son's weekly earnings for the remainder of their lives as a result of his death. Mr. Cring met death when he slipped and fell between rolls of a paper machine. At the hearing a representative of the paper company submitted a report which revealed that the deceased man's earnings averaged $31.40 a week. J. T. Bodin, of Hudson Falls, was awarded $1,418 for loss of the use of a leg resulting from injuries sustained while working for the Union Bag and Paper Corporation.

Pulp and Paper Prices in Sweden

WASHINGTON, D. C., March 17, 1930.—Prices showed an increase in the minimum price of strong sulphate and decreases in the minimum prices of bleached sulphite, strong sulphate, and the minimum price of strong sulphite, during the last two weeks of January in Sweden, according to a report from Consul General John Osborne, at Stockholm. No change was observable in paper prices, news print being quoted at approximately $54.80 and greaseproof paper at $97.45 per short ton, f.o.b. Swedish port.

New York State Forestry

The New York State Forestry Association, which recently completed its annual meeting here with the election of Clarence L. Fisher of Lewis County as president, has announced its intention to urge upon the legislature that it continue the reforestation commission in the work it is now performing to bring back tree life to denuded areas. The association, which has a membership of 1,200 persons interested in the promotion of forestry interests in this state, has adopted a resolution praising the work that its newly elected president has done as a member of the legislative reforestation commission, which was created under a law sponsored by Senator Hewitt of Cayuga County.

The newly elected president is an ardent supporter of the state's reforestation program besides being a director of the Empire State Forest Products Association. The legislative reforestation commission is scheduled to pass out of existence in the spring as the situation now stands and a ten year reforestation program has been outlined and placed in the hands of the conservation commission. Forestry enthusiasts believe that the commission should be continued for at least another year to take a supervisory interest in the start of the reforestation project which is scheduled to result in the planting of millions of new trees and the establishment of additional state tree nurseries to supply the demands of the reforestation project.

The New York State Forestry Association, which has joined in promoting the plan, unites in its organization the conservationist, sportsmen, lumbermen, tourists and even city dwellers, all interested in the preservation and growth of the forests of the state. The association also is watching with interest the legislation which will be passed to carry out an amendment to the state constitution adopted at the last state election to provide an appropriation for fighting forest fires.

Hadley Mills May Be Turned Into Paper Plant

HOLYOKE, Mass., March 17, 1930.—Much interest in local papermaking circles has been aroused by the report that the Hadley Mills, a worsted manufacturing plant in South Hadley Falls, now closed down, would be remodeled into a paper manufacturing plant.

C. Fayette Smith, the largest stockholder and one of the largest creditors, said this past week that plans to that effect had been drawn but that nothing would be done pending the sale of the property which is now in the bankruptcy court with Harlan I. Dennett as trustee. A new building would have to be built to house the machine or machines, but the rest of the building could be remodeled he thought.

The water power is very valuable. It is not only the first water power deed recorded, but it is the only water power ever sold outright on a warranty deed, all the other Holyoke power being on a rental basis.

The Hadley Mills also owns the canal from the headgate to the mill. A curious fact about this is that the deed written in 1849, gave and conveyed to the Glasgow Mills, the precursor of the Hadley Mills, the canal "when it shall be abandoned for use for navigation." Navigation was as important as water power in those days.

New Power Pumping Handbook

"Pump-Fax," a new handbook on pumping, has just been issued by Gould's Pumps, Inc., of Seneca Falls, N. Y. This attractive work contains much valuable information and data on the characteristics, installation and operation of pumps, compiled by F. G. Switzer, M. E., M. M. E. In addition, much will be found that will help in the selection and location of the piping, valves and other accessories which lead to a first class installation at reasonable cost. The bulletin will prove a great help to the man who has the probem of moving liquids of any kind: water, oil, chemicals, or any liquid products in manufacturing processes.

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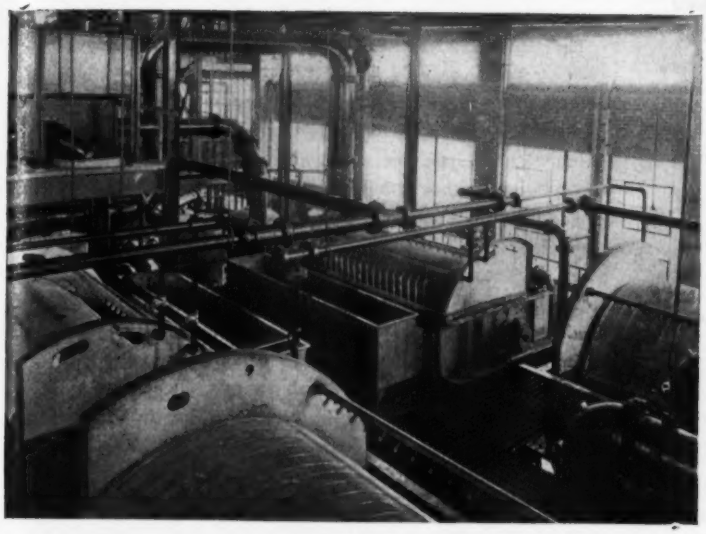

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. . Oliver United Lime Mud Filter

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IMPORT CASES ABANDONED

A special report just issued by the Import Committee of the American Paper Industry states that importers during the last two weeks of February abandoned cases involving 180 separate importations of paper. This is an impressive record and evidences the effective work that the committee is doing.

According to Mr. Warren B. Bullock, the manager of the committee, never since the Import Committee was formed five years ago has there been such a sweeping abandonment by importers of cases which they had carried to the Customs Courts as during February. The wholesale abandonment of cases is due to recent decisions by Customs Court settling questions as to classifications of various imported papers. Without the knowledge of the amount of the various shipments, which customs officials are not allowed to disclose, the money value of these cases cannot be even estimated.

A few of the cases abandoned are mentioned below to give some idea of the wide varieties of papers involved.

Thirty importations to a single concern, much of which was for a religious publication, in which paper with over 30 per cent sulphite, some 40 pounds in weight, and some supercalendered, was claimed to be standard news print, duty free, but which was classified for duty at ¼ cent per pound and 10 per cent as printing paper.

Eight importations weighing 38 to 60 pounds, some all sulphite paper, claimed to be duty free as standard news print, classified for duty as printing paper.

Twelve shipments of India bible paper claimed to be duty free as standard news print, classified for duty at 4 cents per pound and 20 per cent as bible paper.

Forty-six importations of paper claimed to be standard but classified for duty as printing paper; among these cases were six shipments of paper with 45 to 70 per cent sulphite, and four weighing from 95 to 115 pounds per ream, the others being paper differing in various characteristics from the standard news print paper it was claimed to be.

Fifty-seven importations of envelopes, writing paper and papeterie held by customs officials to be subject to 10 per cent additional duty as decorated writing paper.

Ten importations of fancy paper claimed to be dutiable at lower rates than those held by customs officials.

The United States Court of Customs and Patent Appeals has decided a test case which involves an important development in the meat packing industry. Foreign manufacturers developed a vegetable parchment covering for link sausages, and endeavored to import these so-called sausage casings free of duty under the tariff provision that sausage casings are duty free. The United States Customs Court held that these parchment casings are not sausage casings in the ordinary meaning of the word, which considers such casings to be animal in origin. The importers appealed to the higher court and the Government has again been sustained. Under this ruling instead of being duty free these parchment casings are dutiable at 5 cents per pound and 20 per cent as articles composed in chief value of vegetable parchment paper.

From its recent good work it may be seen that the Import Committee has been well organized under Mr. Bullock. It may reasonably be expected that its work in the future will be more effective even than it has been in the past and that it will help very greatly to clear the American paper industry from a disturbing influence of many years standing.

FOREST CONSERVATION IN NEW YORK

The State Reforestation Commission has had introduced in the Legislature an amendment to the Constitution which will bring about a new era in forest conservation in the Empire State.

After attacking the idle land problem in a small way during the past twenty-five years a program to reforest at least one million acres over a ten-year period has been started by the State. In view of the fact that a good share of the vast area of four to five million acres of idle land in need of planting are in some of the Adirondack counties, the commission has fathered a bill which will permit the State to purchase these lands as it may deem advisable and provide for the growing of timber for commercial purposes. This will not mean interference with the scenic features, recreational opportunities, fishing and hunting and other park pleasures enjoyed by the people in the Adirondack and Catskill regions, but it will mean that forest management can be practiced on some of the districts outside of the so-called park or blue lines in the Forest Preserve counties.

The Forest Preserve counties extend from Canada to the Mohawk Valley and from Lake Champlain and the Vermont line nearly to Syracuse. The plan involves no interference with or encroachment upon the Adirondack or Catskill Parks, but it will mean the planting of vast areas of idle lands which should be growing trees for the industries and other purposes for which the people may need these forests fifty to one hundred years hence.

There are sixteen Forest Preserve counties, four in the Catskill Region, twelve in the Adirondack Region. The so-called Adirondack Park occupies the center of this territory in the Adirondack counties as does the Catskill Park in the Catskill counties. The boundaries of these parks are defined by law, but they do not occupy more than one-third of the land area within the Forest Preserve counties.

To understand the proposed amendment, it is necessary to keep

clearly in mind the difference between the park areas and the Forest Preserve counties. Most of the land owned by the State is inside of the park lines. The two parks comprise more than 2,000,000 acres of State land. In addition to these lands within the Catskill and Adirondack Parks, the State owns 200,000 acres outside of the parks, but within the Forest Preserve counties. The proposed amendment will not disturb any of these lands or forests.

The amendment cannot be considered as an opening wedge to logging operations in the Adirondack and Catskill Parks. The parks undoubtedly are worth more to the people of the State for recreation than for lumber. On the other hand, it is believed that the principle underlying forestry, namely the best use of forests and forest land for the largest number of people, would be served more completely through the operation of the proposed amendment than is possible under the present Constitutional Law that keeps these idle lands forever idle.

The New York Section of the Society of American Foresters, the New York State Forestry Association and the faculty of the New York State College of Forestry have gone on record as approving this Constitutional amendment.

New Process Straw Paper Satisfactory

[FROM OUR REGULAR CORRESPONDENT]

DAYTON, Ohio, March 17, 1930.—Satisfactory progress has been made by the Weston Paper and Manufacturing Company of this city in the use of its patent allowed for a new process of making straw paper especially adapted for corrugating, the kind used in the manufacture of shipping containers.

This improved method of making straw paper produces an exceptionally hard sheet without sacrificing the flexibility and resiliency necessary for corrugating which straw is peculiarly well adapted.

This new method will result in vastly increased consumption of straw and the Weston Paper and Manufacturing Company has plans on foot which contemplate a largely increased production in its various plants which are located in Ohio, Indiana and Illinois.

The Dayton company has a plant in this city where general offices are located. It has been manufacturing straw paper for use in corrugated packing boxes for 45 years and has been in production under the new process for a number of months, pending patent, which was granted some time after the first of the year.

The new rigid corrugations withstand rough usage and protect the contents of the package better than the old product. Baled straw purchased from farmers, is the main constitutent of the special paper made at St. Marys, Ohio, Terre Haute, Ind., and other places.

The Weston Company purchases more than 100,000 tons of straw from farmers each year, this feature being one of the old standbys of agriculturists in the Middle Western states where sometimes crops are not big profit makers.

Corrugated paper shipping boxes are now generally used for sending various breakable articles by freight, the freight rate being the same as for shipment in wooden boxes.

Buy Interest in Willapa Paper Co.

The British-American Consolidated Properties, Ltd., has purchased a controlling interest in the Willapa Pulp and Paper Company, which has extensive properties in Southwest Washington. The consideration was not made public. G. A. Moulton who made the announcement March 8 is president of the British concern.

The Willapa Pulp and Paper Company has had plans for a new plant at Raymond, Wash., for some time, the initial capacity of which was to be 75 tons of sulphate a day. Construction will now start on this plant about April 1.

Metropolitan Bag & Paper Jobbers Confer

The Thirteenth Annual Luncheon, Exhibition, Banquet and Conference of the Metropolitan Bag and Paper Jobbers' Association was held at the Hotel Leverich Towers, Brooklyn, N. Y., last Thursday, March 13.

The events of the day began with an enjoyable luncheon tendered by the association to members and guests. Thomas J. Nagle, president of the association, occupied the chair at the conference which followed. Mr. Nagle reviewed the work of the association in a convincing manner and introduced the speakers with timely remarks.

Professor Madden, Dean of the School of Commerce of New York University, analyzed the scientific aspect of business in an interesting and instructive way. He expressed the view that tolerance in competition should be cultivated. He declared that the object of Trade Associations should be to place business on a proper plane. He used many humorous stories to illustrate his points.

Hugh Wright, secretary of the newly formed Paper Bag Manufacturers Institute, explained the purposes of his organization, which he stated would be mostly educational. He also declared that the Institute intended to promote the paper bag business and to put it on an ethical plane.

Jacob S. Barshay, attorney for the Metropolitan Bag and Paper Jobbers' Association, mentioned the fact that the organization was celebrating its thirteenth anniversary and stated that it had weathered storms and reached the stage of maturity. Towards the end of the proceedings the chairman, on behalf of the members of the association, presented Mr. Barshay with a handsome pen and pencil set in commemoration of his tenth anniversary with the organization.

After the luncheon the members and guests inspected the excellent exposition arranged by various manufacturers. Great interest was taken in the numerous booths. Manufacturers displaying their products included:

The Keyes Fibre Company, Inc.; The Erving Paper Mills; The Frank M. Sayford Company, Inc.; Continental Paper and Bag Corporation; The Gotham Tissue Corporation; Lily-Tulip Cup Corporation; Hamersley Manufacturing Company; Miami Valley Coated Paper Company; The Smith-Lewis Fibre Can Corporation; Frank L. Scott Company; Park Tissue Mills; A. P. W. Paper Company; American Tissue Mills; Waxed Products Company; Herz Straw Company; Alfred Bleyer & Co.; McKenna & Phelps, Inc.; Individual Drinking Cup Company; A. W. Archer Company, Inc.; Sanitary Products Corporation of America; Hygeia Antiseptic Toothpick Company; The Utility Company, Inc.; and Stanco, Inc.

Both ladies and gentlemen attended the banquet in the evening. Music and dancing and surprises galore were arranged to make the evening very delightful. One and all voted the event one of the most successful ever held by the Metropolitan Bag and Paper Jobbers' Association.

Frisch White Background Patent

Paul S. Hanway, manager-treasurer of the American Waxed Paper Association, declares that an unfounded and untrue report to the effect that a decision was rendered recently involving this particular patent has done an unjustice to Mr. Frisch of the American Bread Wrapper Company and should be immediately corrected.

There has been no decision whatsoever with respect to this patent according to authentic reports from Mr. Frisch and the American Bread Wrapper Company, states Mr. Hanway, and if any of the manufacturers in the industry have been so misinformed or have passed on such gossip to others, it is sincerely hoped that immediate steps may be taken, in justice and fairness, to correct any such misunderstanding with respect to this patent.

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Section of the
Technical Association of the Pulp and Paper Industry
Edited by Ronald G. Macdonald, Secretary

Sulphur Burning in Sulphite Acid Manufacture*

By Chas. M. Cooper[1]

It is strange that a process of such importance as sulphur burning should have received very little basic study; yet such is the case. Consider, for example, that even today a sulphite mill in burning 10 tons of sulphur throws away heat equivalent to more than 2 tons of coal!

This paper summarizes briefly present theory and practice in the combustion of sulphur for sulphite acid manufacture. Little quantitative information is given because little is available. It is to be hoped, however, that the results of investigations now under way may serve to indicate ways and means of improving the efficiency and economy of sulphur utilization.

When sulphur is burned in the process of making sulphite acid one, and only one, product is desired, sulphur dioxide. Unfortunately the only economical source of oxygen at present available is air, and when air is used we handle four volumes of inert nitrogen for every volume of useful oxygen. Moreover some sulphur trioxide is always produced if oxygen is present in excess of the necessary amount, and on cooling, this compound promptly unites with any water vapor present to form a dense white fog of sulphuric acid particles. There is also the possibility that some sulphur will remain unburned, and appear as a fine powder when the gas is cooled. Thus, though sulphur dioxide is the product desired, we have forced upon us large amounts of nitrogen, some oxygen, and varying amounts of sulphur powder, and sulphuric acid. The last two materials, sulphur and sulphuric acid, are generally considered harmful to the acid produced, besides representing a loss of an expensive material, while the presence of oxygen is thought to cause further oxidation of sulphur dioxide during the absorption process. On these grounds it is apparent that the best available gas for sulphite acid making is a mixture of pure sulphur dioxide with pure nitrogen; and that the more nearly a gas approaches this condition, the better it is adapted to its purpose.

Sulphur Burning Factors

To produce a good gas, the sulphur burning system must accomplish several things:

1) it must mix sulphur with the correct amount of air;
2) it must completely burn this mixture at a temperature sufficiently high to prevent the formation of an appreciable amount of sulphur trioxide;
3) It must cool the gas rapidly in order to prevent formation of more sulphur trioxide.

Thus the sulphur burning system naturally divides itself into three parts:

That part usually called the "burner" in which the sulphur is vaporized, mixed with air and partly burned; a heat insulated space known as the "combustion chamber" in which the gas is burned; and a system of coolers.

In usual practice only a portion of the air is admitted to the burner where it vaporizes sulphur and burns a part of it. The sulphur must be continually agitated to prevent the formation of an ash which would separate the sulphur from the air. The amount of sulphur vaporized depends on four factors: (a) the amount of agitation, (b) the area of liquid sulphur exposed, (c) the sulphur temperature, (d) the amount of air.

Now in any given installation, area of liquid, and the amount of agitation are usually quite definitely fixed, the control being taken care of by varying the proportion of air admitted to the burner, and to the combustion chamber. No attempt is made to ascertain the sulphur temperature, which increases until the heat lost from the burner to the surrounding air just equals that liberated by the burning of a portion of the sulphur. Any change in the temperature or the velocity of the surrounding air soon results in a change of sulphur temperature which immediately alters the rate at which sulphur is vaporized. Thus for an increase of sulphur temperature of 10 deg. F. there would be expected an increase in vaporization rate of around 10 per cent. If the final gas contained 10 per cent sulphur dioxide, then after a 10 deg. F. rise in sulphur temperature a concentration of 17.6 per cent sulphur dioxide might be expected. With apparatus at present available it is difficult to prevent fluctuations of at least 10 per cent in vaporization rate which means that at least 2 per cent of excess oxygen must be present to take care of the high sulphur rates occasionally met with. Otherwise unburned sulphur will leave the burner, causing trouble in the coolers as well as in the finished acid. This oxygen, though necessary, is very undesirable.

At the entrance to the combustion chamber the remainder of the air is added to the sulphur laden gas issuing from the burner. The mixture enters the fire brick lined chamber, usually provided with a baffle to assist in thorough mixing, and is burned. This process is not instantaneous, and its rate (and hence the size of the equipment) is dependent on a number of factors of which the most important are: (a) temperature, (b) concentration of combustible materials, (c) amount of incandescent surface present.

Temperature Effects

The rate at which gasoline reactions take place is greatly affected by the temperature. In general, at the temperatures met with in sulphur burner practice, an increase of 200 deg. F. will more than double the reaction rate. Consequently, the higher the temperature, the more complete the combustion and the smaller the space necessary. Incandescent surfaces also tend to accelerate gaseous

* Presented at annual meeting of TAPPI, Pennsylvania Hotel, New York, N. Y., Feb. 20, 1930.
[1] Director of Bangor Station, School of Chemical Engineering Practice of the Massachusetts Institute of Technology, Bangor, Maine.

reactions, and fire brick checkerworks have been used to speed up combustion.

In the combustion process sulphur trioxide is formed in amounts depending largely on the temperature and upon the amount of excess oxygen. If this latter be fixed at 2.0 per cent, the theoretical amount of sulphur trioxide existing at various temperatures is shown approximately in the table below.[2]

Temperature, deg. F.	Per cent of total sulphur as sulphur trioxide
1100	20.0
1500	8.0
2000	1.0
2500	0.3

Obviously the higher the temperature the lower the amount of sulphur present as sulphuric acid; but, unless the gas be cooled quickly the value of the high temperature will be lost in the reoxidation of some sulphur dioxide to again form sulphur trioxide.

In the combustion of solid sulphur with air to give a gas containing 18 per cent of sulphur dioxide the gas leaving the combustion space would have a temperature around 2800 deg. F., if all heat loss were prevented. In actual practice I believe it is unusual to attain temperatures above 1850 deg. F. In order to do so with present equipment it would be necessary to heat insulate all parts. For instance burner shells could be fire-brick lined, etc.

As a typical example of good present practice, consider a sulphite mill burning 10 tons of sulphur per day to a gas containing 17.5 per cent of sulphur dioxide with a combustion chamber temperature of 1832 deg. F. and with rapid cooling of the combustion products. The theoretical amount of sulphur lost per day as sulphuric acid will be about 430 pounds and represents $4.30 with $20 sulphur. The heat thrown away will amount to 79,200,000 B.t.u. per day which is equivalent to 2.8 tons of coal having a heat of combustion of 14,000 B.t.u. per pound.

In closing let me suggest two lines of attack which appear to offer possibilities:

1) the improvement of the control of the sulphur vaporizing process so that less excess oxygen need be employed;

2) the development of cooling equipment which will utilize the heat now wasted.

[2] Computed from equilibrium data of Bodenstein & Pohl by Dan B. Wicker.

Hand Book of Chemical Microscopy

HAND BOOK OF CHEMICAL MICROSCOPY by E. M. Chamot and C. W. Mason. Volume I. Principles and Use of the Microscope and Accessories—474 pages. John Wiley & Sons, Inc. New York, N. Y. 1930. $4.50.

This is essentially a new edition of Elements of Chemical Microscopy by Chamot (1915) and contains new chapters on photomicography numerous illustrations. Special attention is given to the quantitative analysis of heterogeneous mixtures and microscopical measurement. A two page bibliography of textbooks on applied chemical microscopy is included as well as twelve pages of laboratory exercises dealing with many chemicals and with considerable attention to the examination of textile and paper fibers.

Since Doctor Chamot's new book was mentioned in the paper by K. P. Geohegan, chief chemist of the Aetna Paper Company at the TAPPI annual meeting, it is of particular interest to many members of the Technical Association. Copies of this book as well as any other technical book may be obtained from the Technical Association of the Pulp and Paper Industry, 18 East 41st street, New York, N. Y.

New Leeds & Northrup Publications

Two new booklets have just been issued by the Leeds & Northrup Company, of Philadelphia. "Galvanometers" is a revised and illustrated catalog which describes the entire range for which galvanometers may be used, in a comprehensive manner. "CO_2 Electrical Meters" is a revised bulletin in the Power Plant Series which demonstrates the reliability of these instruments in boiler plant installations. This bulletin is also profusely illustrated and contains a valuable chart showing sample curves from L. & N. CO_2 Recorders. Copies will be sent upon request.

New TAPPI Members

Oscar C. Cordes, general engineer, Westinghouse Electric and Manufacturing Company, Philadelphia, Pa.

Roy L. Davis, student, Institute of Paper Chemistry, Appleton, Wis.

Douglas Henderson, vice president, Stratton Engineering Corporation, 116 East 18th street, New York, N. Y.

Paul Hodges, chief chemist, Gulf States Paper Corporation, Tuscaloosa, La.

Alfred A. Hormel, sales engineer, Technical Economist Corporation, 122 East 42nd street, New York, N. Y.

Randolph B. Martin, industrial sales engineer, Wallace & Tiernan Company, Newark, N. J.

Philip H. Prior, research chemist, Albert E. Reed & Co., Aylesford Paper Mills, Larkfield, Kent, England.

Maurice D. Reuben, chemist, York Haven Paper Company, York Haven, Pa.

Fred W. Schneider, chemist, Hampden Paint and Chemical Company, Springfield, Mass.

Michael S. Shenk, paper chemist, National Adhesives Corporation, 820 Greenwich street, New York, N. Y.

Fritz W. Stolze, chemical engineer, Via Privata Bizzoni 3, Milano, Italy.

Byron L. Wehmhoff, technical director, Government Printing Office, Washington, D. C.

J. Ernest Zundel, Jr., technical manager, Papeterie Heiligenberg, Heiligenberg, Bas Rhin, France.

Largest Danish Paper Company TAPPI Member

The United Paper Mills Company, Ltd. (De Forenede Papirfabrikker A/S) of Copenhagen, Denmark, has become a corporate member of the Technical Association. This company has a production of 40,000 tons a year and owns and operates the following mills:

Dalum Papirfabrik at Odense, Denmark, which is a five machine mill making writing and printing paper.

Maglemolle Papirfabrik at Naestved, a seven machine mill making news, colored printing paper and cartridge paper.

Norrebro Papirfabrik at Copenhagen, a one machine mill making raw roofing and grays.

Orholm Papirfabrik near Copenhagen, a one machine mill making imitation parchment and grays.

Silkeborg Papirfabrik at Silkeborg, Denmark, a two machine mill making government writing, banknote, fine writing and hand made paper.

The representative in TAPPI is Paul Schou.

TAPPI Notes

Sten Lundquist has returned to the Centrifugal Engineering and Patents Corporation in New York, having until recently been with the Bird Machine Company in South Walpole, Mass.

L. A. Carpenter has left the Forest Products Laboratory at Madison, Wis., and is now with the Oxford Paper Company in Rumford, Maine.

W. H. Burchard, formerly with the Scutan Division of the Union Bag and Paper Corporation, has joined the development organization of the U. S. Rubber Company's Fiber Products Division at Rock City Falls, N. Y.

W. H. Monsson has joined the technical staff of the Munising Paper Company. He was formerly at the Forest Products Laboratory in Madison, Wisconsin.

Polish Paper Company Joins TAPPI

The first company in the new Republic of Poland to become corporate members of the Technical Association of the Pulp and Paper Industry is Robert Saenger, Ltd., with mills located at Pabianice and Wloclamek, Poland. The company operates two machines, manufactures writing, printing and wrapping paper as well as sulphite pulp.

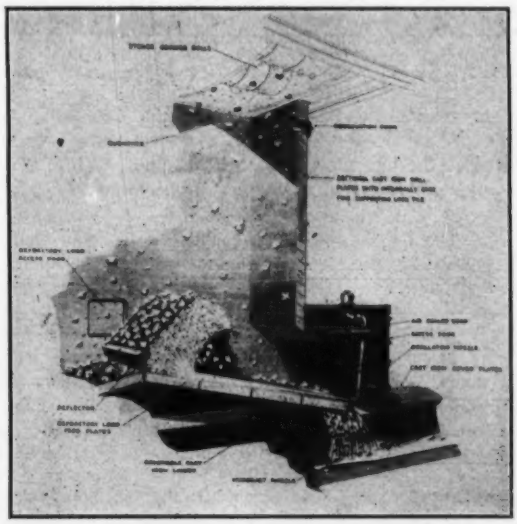
Hydraulic Ash and Dust Removal in Paper Mills*

By F. B. Allen[1]

Paper mill power plants, must today, meet far greater steam producing demands than ever before. This produces many new problems both in the design of new power plants and in the economical operation of those existing. More steam means more coal burned and this likewise means more ashes to be removed. In the past, ash handling presented no serious difficulty in the average paper mill, but today it is not uncommon to find a paper mill burning over a hundred tons of coal daily. When it is realized that the ordinary bituminous coal produces 10 to 15 percent of its weight in ash, the enormity of the problem it presents can more easily be understood. A plant burning 100 tons of coal daily must, in an equal period, dispose of 10 to 15 tons of ash and if more coal is burned, so much greater is the problem. With such huge volumes of waste material to be disposed of daily, paper mills can introduce tremendous economies by the application of a modern ash handling system.

The operation of the hydraulic system for both pulverized coal and stoker fired furnaces is essentially the same. The ashes accumulate in storage hoppers beneath the furnaces and are periodically removed by means of a high velocity water stream flowing through an enclosed conduit. Dust and soot are also collected in hoppers beneath the last pass of the boilers, economizers, air preheaters, and at the base of the stack. A dust valve, which is in reality a miniature Hydrojet periodically discharges the dust into the parent system.

The ash and dust laden water can empty into adjacent lowlands



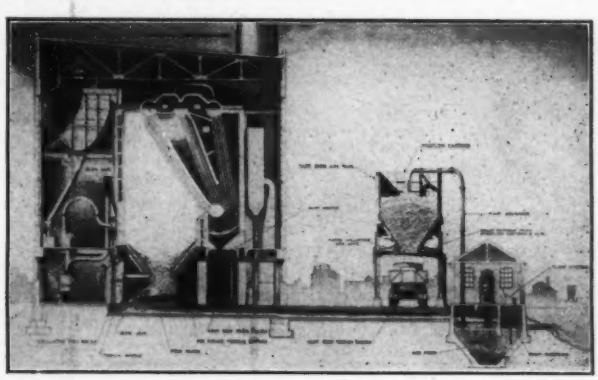
HYDRAULIC ASH HANDLING SYSTEM APPLIED TO STOKER FIRED FURNACE

for fill, the water leeching into the ground, or the system can discharge into a sump within, or adjacent to the power plant.

From the sump, the ash laden water can be pumped to distant lowlands for fill or to an overhead storage bin, in which case the water drains off and the commercially dry ash periodically dumped into railroad cars or trucks. The water from the bin can pass into a sewer, or, if desired, it can drain back to the sump and be recirculated through the system, about 5 per cent make-up being required to prevent concentration.

The pump employed is usually a vertical type, specially designed for the handling of ash. The design, combined with the use of special alloys for pump parts, produces a unit which operates satisfactorily for a long period of time.

Where ashes are conveyed to the sump, too large to be pumped, a double roll grinder with sizing grid are installed at the sump. The sizing grid is essential in every installation where ashes are pumped, for the Hydrojet is sufficiently powerful to readily convey loose



HYDRAULIC ASH HANDLING SYSTEM APPLIED TO PULVERIZED COAL BURNING PLANT

fire brick, tools, etc., to the sump, which material is too large to pass through the pump.

Ashes can also be removed from the sump by a grab bucket and loaded either into a storage bin or direct to cars or trucks.

Pumping of ash from the sump has the advantage of decreasing the cost of and the space required for the sump, since the ash is removed as fast as it enters the sump. Where ashes are removed by grab bucket, the sump must be of ample size to hold at least one complete ash discharge.

The economies of this system will be fully explained later, exactly as they actually exist in certain paper mills. It is sufficient now to state that in the average installation, one man removes the ashes from the furnaces to point of disposal in about 15 minutes time per boiler. Practically no labor is required for the entire procedure. The operator simply starts the pumps, opens and closes one valve per boiler and swings the feed nozzle from one side to the other periodically as required. It is not necessary to prime the discharge pump or the sump pump, for a water level is maintained in the sump for automatic priming. Furthermore, it is impossible for the operator to feed the ash too fast and thus dam the conduit. Ashes are fed by water in proportion to the carrying capacity of the water.

Hydraulic Handling of Ashes

Ashes are removed to the point of disposal at the rate of approximately one ton a minute, depending on conditions. This high capacity enables one man to accomplish in a few minutes, what ordinarily requires many hours work of a crew of men.

Furthermore with water supplied at 100 pounds pressure, the velocity in the conduit approximates 130 feet per second, which produces adequate power to easily handle a dense clinker weighing as much as 75 pounds, or anything that will pass through 12 inch square grids.

Due to the intermittent operation of the system, power and water requirements are reduced to a minimum. The power required ranges between 1 and 3 kilowatt hours per ton of ashes removed while 3 to 6 pounds of water are required per pound of ash.

* Presented at annual meeting of TAPPI, Pennsylvania Hotel, New York, N. Y., Feb. 19, 1930.

[1] President, Allen-Sherman-Hoff Company, Philadelphia, Pa.

The Hydrojet is a totally enclosed system and since it is both dust and water tight, the basement can be maintained clean and dry, while the hazards of fog in cold weather, fumes, smoke and gases are precluded. Men cannot be asphyxiated or burned and are not forced to contend with unhealthy conditions often encountered in ash basements.

Due to the total enclosure of the system, and the suspension of ash in water while being discharged, the escape of dust is absolutely eliminated. This is particularly advantageous where coal is burned in powdered form, for in such cases it is practically impossible to handle the fine dust in a dry state with an open conveying system, without a large proportion passing off into the atmosphere. Free dust can float away in the air, permeating the entire boiler plant and adjacent buildings, with probable serious effects on moving machinery, paper in the course of manufacture and pulp in storage.

The only portion of the system in continuous use is the storage container beneath the furnace, in which the ashes accumulate. Since the ashes are discharged from these containers, at will of operator, once or twice daily, many hours are available for maintenance without disrupting the continuity of operation in any way. No interruption to boiler steaming capacity results even in the event of water supply failure while ashes are being discharged. The balance of the ashes are simply allowed to remain in the container until pressure is restored.

Two sump pumps are recommended to take care of emergencies. These twin pumps are controlled by a foolproof, automatic valve

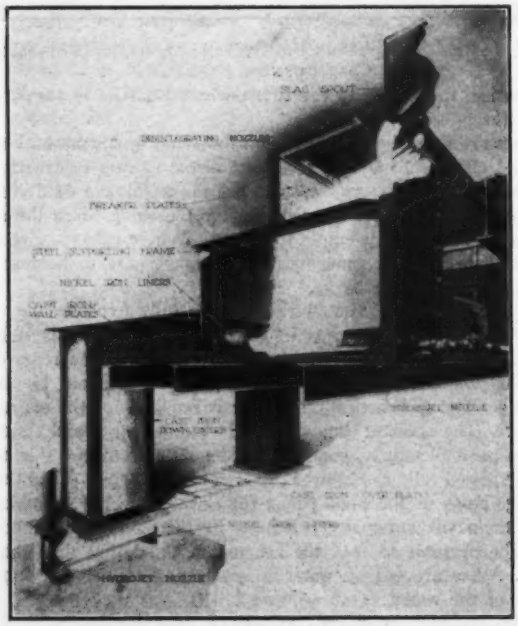


DIAGRAM OF HYDRAULIC ASH HANDLING SYSTEM FOR HANDLING ASH IN MOLTEN CONDITION FROM A WELL TYPE FURNACE

which takes care of every electrical and hydraulic condition encountered at the sump.

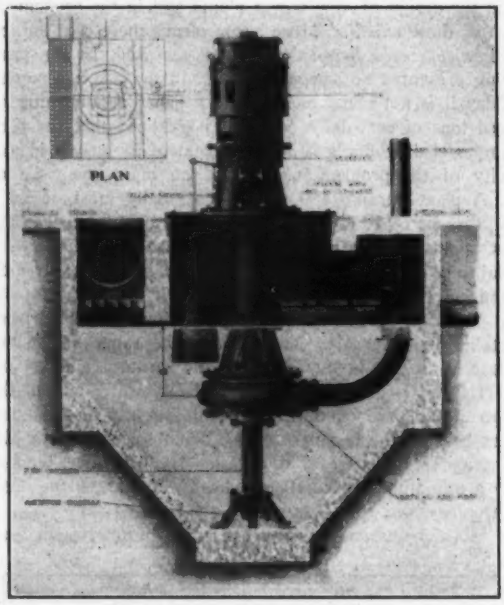
Mead Fiber Company Installation

At the Mead Fibre Company's mill at Kingsport, Tennessee, is an installation of the hydraulic system of ash handling. In this plant ten boilers are fired by underfed stokers,—the boilers being arranged in one line. The actual horsepower produced ranges between 5500 and 6000.

Two hundred and forty to 300 tons of Moss coal are burned daily, six days per week. This coal runs about 9 per cent ash content, and therefore they must dispose of approximately 25 tons of ashes every working day.

Before they installed the hydraulic system three shifts of three men each were required six days per week for removing ashes. The refuse was hoed onto the basement floor, loaded in wheelbarrows and pushed up an incline about 35 feet long, finally being dumped outside the building. The ash tunnel was very hot, due to the hot ashes and poor ventilation, thus creating very uncomfortable and unhealthy working conditions.

With this system, two men working two hours in the morning



DIAGRAMMATIC VIEW SHOWING THE INSTALLATION OF A PUMP IN A SUMP

and two hours in the afternoon handle the daily ash accumulation. This is a labor saving of 64 man hours daily, when compared to the old methods of ash handling.

Ashes are carried from the hoppers beneath the furnaces to a sump located in the center of the power plant. The distance from the end boilers to the sump is approximately 100 feet. The water which conveys the ashes to the sump is supplied by a Gould's pump 685 gals per min. driven by a 75 h.p. motor. Before entering the sump the ashes pass thru an A-S-H grinder, which is driven by a 15 h.p. motor.

Ashes are pumped from the sump by means of a 5 inch A-S-H vertical pump, 700 gal per min. capacity, driven by a 50 h.p. motor. They are elevated 11 feet to the horizontal level, then pumped 60 feet and finally elevated 45 feet to a storage bin of 50 ton capacity. The total head of the pump is 76 feet including the friction of the pipe.

Railroad tracks pass directly beneath the bin, thus ashes are dumped, by opening the gates, into the cars. Provision is also made whereby the ashes can pass through a chute and be loaded into motor trucks or wagons. The system has been in operation at this plant for eighteen months. A similar system is being installed in the mill of the Mead Straw Pulp Company at Chillicothe, Ohio.

Installation at Paul A. Sorg Mill

Another interesting installation is at the Paul A. Sorg Paper Company, Middletown, Ohio. This mill, the W. B. Oglesby Paper Company, and the Frank Smith Paper Company are located on adjacent properties and formerly, each had its own power plant. Due to the obsolescence of equipment in the various power plants, the high cost of generating power and the need for more power, they decided to discard all three and erect one modern, centrally located power plant to serve the three mills. This new plant was designed by Warren D. Spengler, Engineers, Cleveland, Ohio, and was put in operation over a year ago.

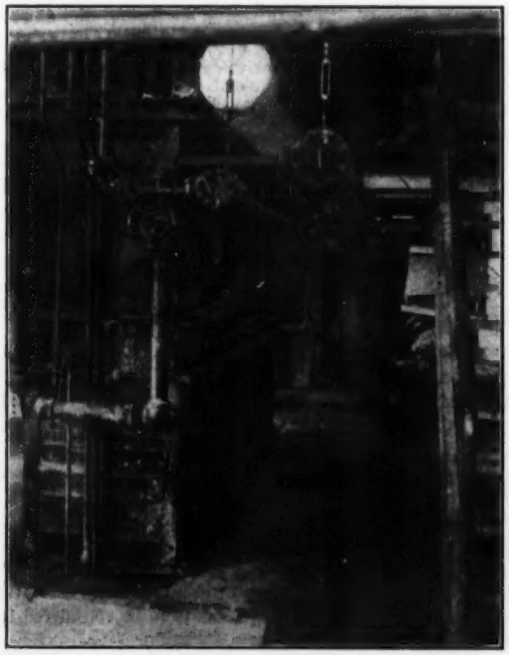
The equipment includes three Stirling boilers, 579 rated horsepower, 415 pounds working pressure, the maximum operating horsepower of each being 2500. The furnaces are fired by pulverized coal. Bailey "Turbulent" burners and Bailey water wall being used.

At maximum capacity, each furnace burns about 3-½ tons of

HYDRAULIC ASH HANDLING SYSTEM AND AIR-COOLED FURNACE BOTTOMS SERVING PULVERIZED COAL FIRED FURNACES

coal per hour, or about 168 tons daily for the entire plant on a 24 hour basis. They burn West Virginia coal, the ash content of which runs 7.14 per cent.

All incombustibles in this power plant are handled by the Hydrojet system. The ash collects in hoppers beneath the furnaces and dust



HYDRAULIC ASH HANDLING SYSTEM IN THE ASH BASEMENT OF THE PAUL A. SORG PAPER CO., MIDDLETOWN, OHIO

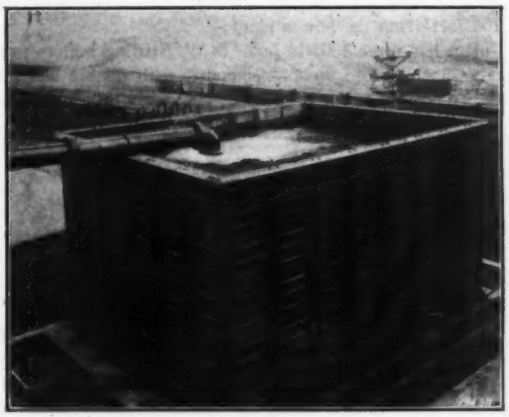
is collected beneath the last pass of the boiler, economizer and air preheater. The refuse is discharged to a sump and then pumped for filling in lowlands.

The design and operating characteristics of the system prevent the escape of dust, thus rendering cleanliness of the plant an easy accomplishment. This is important at the Sorg mill, since the warehouse where pulp is stored is near the power plant.

John H. Heald Paper Company Installation

An interesting application of the Hydrojet system is at the John H. Heald Paper Company, Lynchburg, Virginia, of which Mr. Carl D. Morgan is plant engineer.

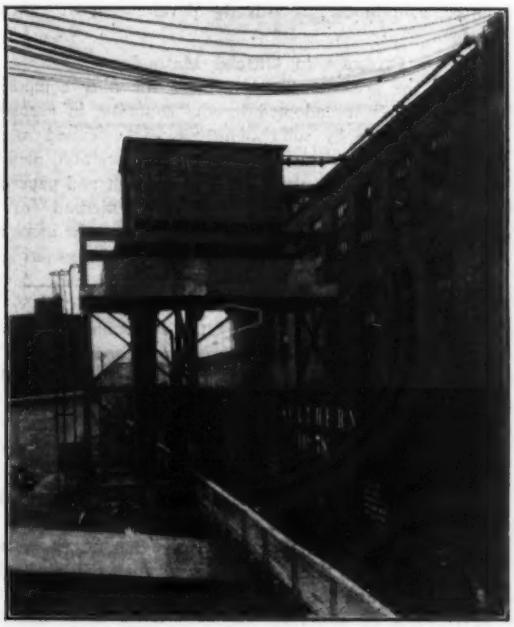
This plant has three 1044 h.p. B. & W. Boilers, fired by pulverized coal. Bailey water walls are used and the coal burners are the



ASHES BEING PUMPED INTO A STORAGE BIN AT THE MEAD FIBRE CO. MILL IN KINGSPORT, TENN. THE ASHES ARE ELEVATED 56 FEET

Bailey-Tenny turbulent forced draft type. Only two boilers are used at a time, one always being idle for cleaning.

They burn 130 tons of New River coal daily, the ash content of which runs about 9 per cent. The plant is operated 24 hours a day, six days a week. Ashes are removed once daily, about 15 minutes



EXTERIOR VIEW SHOWING THE INSTALLATION OF THE ASH BIN AT THE MEAD FIBRE CO. MILL AT KINGSPORT, TENN.

time of one man being required for each furnace. The Hydrojet carries the refuse 300 feet to a sump, from which they are removed by a grab bucket and loaded into railroad cars.

Other Paper Mill Installations

The River Raisin Paper Company, Monroe, Michigan, have used the system for three years. They have four 1295 h. p. Erie City boilers operating at about 200 per cent of rating and fired by pul-

verized coal. They burn about 250 tons of coal daily, and Mr. Grant Miller, their Chief Engineer, estimates that 3000 to 3500 tons of ashes are removed yearly. Ashes are discharged to a sump and then pumped 1100 feet to fill.

At Mobile, Alabama, the Southeastern Production Company has designed and built a central station to furnish power and process steam to the new mill of the International Paper Co., located about 700 feet from the power plant.

This plant has three 1300 h. p. B. & W. Stirling boilers fired by Westinghouse underfeed stokers equipped with double roll clinker grinders. They burn about 125 tons of coal daily the ash content of which runs 11.69 per cent. Ashes are hydrojetted 82 feet to a sump from which they are pumped 74 feet and elevated 14 feet 6 inches to fill. Ashes are clamshelled from fill and loaded into cars.

Two other mills of the International Paper Company at Fort Edward, N. Y., and Dalhousie, Quebec, are also equipped with the Hydrojet system of removing ashes.

The Munising Paper Company, Munising, Michigan, have recently contracted for a Hydrojet to serve a pulverized coal fired B. & W. Stirling boiler. Ashes will accumulate in a molten pool in the Bailey well type furnace, and periodically tapped off into the Hydrojet system. The high velocity water stream will disintegrate the ash and particles about the size of buckwheat coal and carry the material to a sump, from which it will be pumped to disposal. The economies of molten ash removal were discovered a few years ago at the Charles R. Huntley steam station of the Buffalo General Electric Company, Buffalo, N. Y. and today is having widespread application.

Report of Paper Testing Committee*

By B. W. Scribner, Chairman

The development of additional official association paper testing methods, was interrupted considerably during the past year by the resignation of all of the former sub-committee chairmen. These resignations were caused either by changes of positions or by the demands of other duties. The new chairmen appointed and their sub-committees are: P. F. Wehmer—chemical methods; R. C. Griffin—grease resistance; P. W. Codwise—water resistance.

Successors to C. E. Libby, microscopical methods, and E. O. Reed, ink resistance of printing papers, have not yet been found. Suggestions in this respect will be welcomed by the committee. As pointed out in the previous annual report, the frequent changes in the personnel directing the sub-committee work and the difficulty of finding suitable personnel able to give the considerable time required, continuously retards the development of additional methods urgently needed.

Progress in Official Methods

Revisions in the present official methods for fiber composition, paraffin and starch were adopted by the committe in accordance with suggestions made by sub-committees. The revised methods have been submitted for the vote of the association members. Methods proposed by the committee on roofing felt and paperboard for testing unimpregnated roofing felt, and a method for bulk were completed as tentative methods. According to the association rules, these will be submitted for the vote of the association one year from the date of their completion. The following development work is in progress:

CHEMICAL METHODS:—A survey by the sub-committtee showed prime interest in determination of acidity, accordingly this was proceeded with as the main project. Some further study of the method for determination of starch is also in progress. The accuracy of the present method is questioned on the ground that while the test is reproducible the starch found is consistently less than that present.

GREASE RESISTANCE:—Further study is being made to find the best testing medium and a more satisfactory end-point.

WATER RESISTANCE:— Further cooperative laboratory tests are being made of various kinds of paper to find the applicability of the dry-indicator and the curl methods.

INK RESISTANCE OF PRINTING PAPERS:—Work done under the supervision of the former chairman, E. O. Reed, in the Government Printing Office, indicates that possibly porosity can be used as a measure of the ink resistance of paper.

Further details of the developments in the sub-committee projects will be reported by the chairman in the sectional meeting on paper testing.

Testing Literature

The following publications were noted as being of particular interest in connection with the official associaton methods:

A description of an improved form of apparatus for the determination of active sulphur, devised by R. H. Stevens (Paper Trade Journal, March 14, 1929).

The Measurement of the Contrast Ratio of Opaque and Translucent Papers, by James d' A. Clark (Paper Trade Journal, November 14, 1929).

An article, "A Natural System for the Analysis and Classification of Paper," A. S. Hammond (Paper Trade Jr., February 14, 1929), contains information on testing impregnating value of paper.

"Newsprint and Ink Penetration," H. Andrews (Paper Trade Journal, November 28, 1929), discusses the testing of this property of newsprint.

"Critical Study of Methods of Measuring the Bulk of Paper," F. T. Carson (Bureau of Standards Research Paper No. 69). is a report of the experimental results on which were based the association tentative method for bulk.

A considerable number of other publications, too numerous to quote here, contain much information of value in the development of additional methods.

Committee Meeting

A meeting of the committee was held in the association offices, New York, May 6. This was well attended, thirteen committee members being present. R. G. Macdonald and W. G. MacNaughton also attended. It was decided to continue the sub-committee work in progress.

Some suggestions were made as to other projects that might be initiated but the difficulty of enlarging the sub-committee activities is such as to preclude any further activities at present.

In respect to revision of the Association publication entitled, "Paper Testing Methods," Secretary Macdonald stated that republication in the present form had been decided upon. In view of this, the committee will not proceed at present with the revision. The possibility of printing the official methods of the Association separately, in loose-leaf form was discussed. In this way the methods could be revised readily. This is to be considered further by the executive committee of the association.

There was considerable discussion of the necessity for more intensive research on paper testing which the committee had mentioned in its annual report. A list of over fifty projects that required study was considered in connection with this matter. It was suggested that possibly suitable arrangements could be made with universities and government institutions to undertake work on some of the paper testing problems listed, particularly those of a fundamental nature. Many of the physical testing methods and some of the chemical methods are merely empirical, and possibly improved methods would result if some scientific fundamental re-

* Presented at annual meeting of TAPPI, Pennsylvania Hotel, New York. N. Y., Feb. 18, 1930.

searches were made. This matter is also to be further considered by the executive committee of the association.

The program for the sectional meeting follows:

The Use of Chemical Microscopy in the Paper Mill Laboratory, K. P. Geohegan.

New Wrinkles in Paper Testing, E. Sutermeister and L. W. Porter.

A Method for the Determination of Volumetric Composition of Paper, P. K. Baird and C. E. Hrubesky.

A Study of the Bursting Strength Test, F. T. Carson.

Reports of sub-committees of paper testing committee:

Chemical methods, P. F. Wehmer.

Ink resistance of Printing Papers, E. O. Reed.

Water resistance, P. F. Codwise.

Grease resistance, R. C. Griffin.

Demonstrations of newly-developed testing instruments.

The services of the committee in respect to advice on paper testing problems is constantly in demand and it is always ready to assist whenever it can. The committee is very appreciative of the excellent assistance that is being given it by the paper industry in respect to information, often volunteered, relating to new methods or to improvements in the established methods. I also wish to express my personal appreciation of the excellent cooperation received from the members of the committee and their employers.

New Wrinkles in Paper Testing*

By E. Sutermeister[1] and L. W. Porter[2]

This paper discusses three methods for the analysis and testing of papers. It is believed that these are new, but at least they are not so generally known that attention need not be called to them.

One of these methods may be considered to be still in the development stage because it has not yet been carried far enough to be certain of the best operating conditions nor of the sensitiveness of the test. They have all, however, reached the stage where they serve a useful purpose and they are given for what they are worth and in the hope that others may find them valuable enough to carry their development still further.

The Removal of Waterproof Coating

In the analysis of coated paper the determination of the amount of coating applied is one of the essential features. This is generally accomplished by treating the paper with hydrochloric acid followed by ammonia and the removal of the coating by means of a camel's hair brush and a stream of water. Occasionally a paper is found with the coating so thoroughly waterproofed that this treatment is ineffective and up to the present time no method of handling such samples has been known.

It has now been found that the enzymes, pepsin and trypsin, will attack casein which has been rendered waterproof with formaldehyde and that the coating may then be brushed off very easily. Pepsin is not as effective as trypsin, more of the enzyme being necessary and a longer time of treatment, so the standard procedure has been worked out for trypsin. This consists simply in immersing the coated paper in a solution containing 1.5 to 2.0 grams of trypsin and 25 cc of 0.1 N caustic soda per liter of solution. This is kept at a temperature of about 40 deg. C. for at least two hours after which the coating can usually be brushed off quite easily.

In working out the conditions for this test the factors of time of treatment, amount of trypsin and degree of alkalinity were investigated. The paper used was waterproofed with formaldehyde to such an extent that no coating could be removed by treating with acid and ammonia. The following table shows the conditions and results of these tests, all of which were made at 40 deg. C.

Strength of Solution Used Grams per Liter Trypsin	C.C. 0.1 N NaOH	Hours in Solution	Coating Comes Off:
1.5	25	1	Easily
1.0	25	1	Fairly easily
0.5	25	1	Difficultly
1.5	25	½	Fairly easily
1.0	25	½	Difficultly
0.5	25	½	Hardly at all
1.5	0	1	Fairly easily
1.5	25	1	Easily
1.5	50	1	Fairly easily
1.5	100	1	Difficultly

The accuracy of the process has been checked against the usual method on three samples of paper containing clay, satin white and casein in the coating. One portion of each sample was treated with acid and ammonia to remove the coating and another was first waterproofed with formaldehyde and then given the trypsin treatment. The results follow.

Sample No.	Treatment	Basis weight 25 x 38—500 Coated	Body	Coating	Per Cent Coating
1	HCl and NH_3	95.5	73.8	21.7	22.7
	Trypsin	96.6	74.8	21.8	22.6
2	HCl and NH_3	95.5	73.4	22.1	23.1
	Trypsin	95.3	73.1	22.2	23.3
3	HCl and NH_3	65.7	43.2	22.5	34.2
	Trypsin	65.6	43.1	22.5	34.3

The final test for accuracy was carried out by applying a coating to weighed samples of paper and then removing it by each of the two methods. The results follow.

Removal by Acid and Ammonia			Removal by Trypsin		
Coating applied %	Coating removed %	Difference %	Coating applied %	Coating removed %	Difference %
25.9	26.3	+0.4	25.3	24.6	—0.7
22.8	22.2	—0.6	22.3	20.9	—1.4
15.9	16.3	+0.4	16.7	17.5	+0.7

Considering the nature of the materials used and their possible variations in weight due to differences in humidity it is concluded that the trypsin method is of fair accuracy.

Since completing this work a case has been brought to our notice in which a waterproof coating could not be removed by trypsin even on standing over night at 40 deg. C. This paper had been kept in an atmosphere of formaldehyde gas for over a month, which is a far more severe treatment than would ever be given to a commercial paper. The failure of the process in this case cannot be considered as a serious criticism of the method but it indicates that it has its limitations and that it would be desirable to determine them experimentally.

Detection of Glue in the Presence of Casein

This method was suggested by Mr. A. H. Warth of the Crown Cork & Seal Company who believes that it may be possible to adapt it to the quantitative determination of glue in the presence of casein. The work has not been carried far enough to see whether this optimism is justified but as the method has value for qualitative work it seems worth while to publish it.

The method depends on the fact that both glue and casein can be rendered insoluble by treating with formaldehyde but that of the compounds formed that with glue is broken up on boiling with dilute hydrochloric acid while that with casein is not. The procedure in its present state of development is as follows: Treat the paper to be tested with formaldehyde gas in a closed jar over night, or until no test can be obtained by boiling the paper in water and adding Schmidt's reagent (acid ammonium molybdate) to the solution. Tear 0.5-1.0 gram of the formolized paper into small pieces and boil 2 minutes in 15-20 cc of hydrochloric acid (1 vol. concentrated acid and 4 vols. water). Decant the solution, make slightly alkaline to phenolphthalein with caustic soda, and then just neutralize with hydrochloric acid. Filter and add Schmidt's reagent to the filtrate. Glue gives a precipitate while casein and starch give none.

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* Presented at annual meeting of TAPPI, Pennsylvania Hotel, New York, N. Y., Feb. 18, 1930.

[1] Member TAPPI; Chief Chemist, S. D. Warren Co., Cumberland Mills, Maine.

[2] Chemist, S. D. Warren Company.

Satin white in a coating tends to make the casein insoluble but boiling water will usually dissolve enough casein to give a test with molybdate. Treatment with formaldehyde, however, prevents this. When the formolized paper is boiled with acid and the solution made alkaline and then just neutral a precipitate is formed which contains alumina and a very little casein. If this is filtered off it does not interfere with the test for glue in the filtrate.

A few tests were made to see how long an exposure to formaldehyde gas at room temperature was necessary to complete the waterproofing of the casein. After three days exposure a glue coated paper still gave a good test, while after 17 hours casein give no precipitate, but at most a slight opalescense. A treatment of 5 hours was not enough to prevent all casein coated papers giving a test, although it was sufficient in some cases.

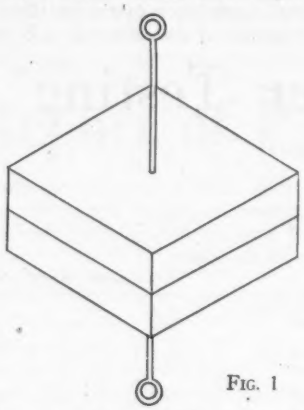

FIG. 1

Paper holder on the Schopper Tensile Tester. (Full scale.)

It is probable that proper selection of the strength of hydrochloric acid and the time of boiling the formolized paper will enable a quantitative separation of glue and casein to be made. This point should be carefully investigated and tests should also be made to see how small an amount of glue can be detected with certainty. Another possible line of improvement is the development of a quicker method for rendering the casein insoluble in acid.

A Splitting Test for Paper

Of all the physical tests of paper none seems to be designed to indicate the force with which the fibers adhere to each other when stress is applied vertically to the surface of the paper. Such a test would indicate the relative firmness or hardness of the papers and it might prove useful in investigating certain of the properties of pulp and paper which it is now difficult to evaluate. The Schopper tensile tester can be used in determining this strength factor and these notes are intended to call attention to one such adaptation which has been found successful and valuable.

The holder for the paper consists of two brass blocks exactly 1 inch square and about a quarter of an inch thick. In the center of one side of each of the blocks is fastened a small eye-bolt which enables the blocks to be attached to hooks which are fastened in the two jaws of the Schopper tester. These hooks may conveniently be made of heavy brass wire soldered to thin, copper or brass strips which are of such a thickness that they can be fastened in the jaws of the tester.

The paper to be tested is fastened between the blocks by means of sodium silicate. This can be done conveniently by brushing the silicate onto one of the blocks, removing most of it by pressing it lightly on a piece of paper or pulp and then immediately pressing this silicated surface onto the paper sample to be tested. The other brass block is treated in the same way and pressed on the paper exactly opposite the first. The assembly is seasoned over night and then suspended from the hooks and the force necessary to split the paper determined.

In making this test too much silicate must not be used as an excess soaks into the paper and spoils the test. The time and conditions of seasoning the assembled samples must also be uniform as it makes a considerable difference whether seasoning is for 16 or 40 hours.

The following table shows the results of this test on a number of papers and indicates the magnitude and uniformity which may be expected in the case of book papers. The figures are given in pounds per square inch and the averages are for eight tests on each paper.

Paper	Splitting Strength Max.	Min.	Av.
English Finish No. 1	39.5	31.3	35.9
English Finish No. 2	38.8	28.4	33.1
English Finish No. 3	41.8	36.4	38.9
Super No. 1	39.2	30.9	35.8
Super No. 2	29.8	17.6	24.6
Machine Finish No. 1	33.7	23.8	27.2
Machine Finish No. 2	31.8	24.3	27.9

Paper Making Fibers*

By E. Sutermeister[1]

There are various ways of classifying paper-making fibers, but for the present case it will probably be sufficiently accurate to group them according to the grades of paper in which they are used.

Cotton and linen fibers are used in papers from the very highest grades downward according to the quality of the cotton or linen fibers employed.

Fibers of the chemical wood pulp class, such as bleached sulphite, sulphate and soda fibers are used in good grade book, magazine and general printing papers where the utmost permanence is not demanded, yet where the paper is expected to remain in good condition for a reasonable length of time and to stand a considerable amount of wear.

Unbleached sulphite and sulphate fibers are largely employed in such grades as bag and wrapping papers where strength is of more importance than color or durability. This class might also include some of the partially purified fibers such as jute and manila.

The final class would include straw fiber as prepared for cheap grades of box boards and ground wood which is used for many products, the most important being newspaper.

The fibers in each of these classes, except perhaps, the last, differ considerably as to quality and value according to the material from which they were prepared and the severity of the process employed. Cotton or linen fibers made from new cloth cuttings are far superior to those made from old and badly worn rags, yet the mere specification of rag stock would permit either to be used. In the chemical wood pulp class large differences are caused by variations in the degree of cooking and bleaching and the papers made from these fibers vary in quality according to the kinds and amounts of impurities which they contain.

Fiber Length and Structure

Considering the structural differences of the fibers it should be stated that this is a property imparted by nature and not influenced to any great extent by the processes of isolation and purification. It is a common fallacy that sulphite is longer than soda fiber because of the difference in the two cooking processes while as a matter of fact it merely happens to be true because soda fiber is usually made from poplar and other broad leaved trees which are short

* Presented at annual meeting of TAPPI, Pennsylvania Hotel, New York, N. Y., Feb. 19, 1930.

[1] Member TAPPI, chief chemist, S. D. Warren Co., Cumberland Mills, Maine.

fibered, and sulphite is made from woods with a much longer fiber. In general all the coniferous woods, such as spruce, fir, the pines, etc., give long fibered pulps while the broad leaved woods such as poplar, maple, birch, gumwood, etc. make short fibered pulps.

The paper making qualities of the fibers depend to a very considerable extent on their structural characteristics. Linen tends to split lengthwise when beaten and form small shreds or fibrillae which are particularly suitable for making thin but strong tissues. Sulphite does not do this to any extent but because of its length and its ability to "hydrate" or become slimy when beaten it imparts strength to papers. Soda fiber from the short leaved woods gives little strength to the paper, but because it is short it tends to fill up the spaces between the longer fibers and give a better printing surface and a more even appearance on looking through the sheet. Ground wood does not consist of individual fibers but of fiber bundles and fragments of fibers. These do not respond to the beating process either by splitting or hydrating, which tends to limit the grades of paper in which this fiber can be used.

It is difficult to compare the chemical processes in their effects on the qualities of the fibers because the same woods are seldom used by both the sulphite and soda processes. It seems to be true that sulphite fiber hydrates easier than soda and therefore makes harder and more rattly papers. Soda or sulphate fiber from coniferous woods tends to give more bulky, softer and more opaque papers than sulphite. Ground wood, because of its lack of flexibility under the beating process is very greatly limited in its usefulness and is practically confined to such grades as news, boards, etc. This refers to the ordinary grades of ground wood; there are some papers of a higher grade than news in which a specially fine ground wood is used but as compared with the amount of standard newsprint their quality is insignificant.

Chemical Properties

The chemical differences of the various fibers is a subject which cannot be discussed very deeply without getting beyond our depth. The present theory is that the cellulose molecule is the same in all fibers and that the chemical differences which they show come from small amounts of impurities which have not been removed from the fibers or which have been added during some of the processes of isolation or purification. If this is true it would go far to explain many of the differences of opinion which now exist for it is obvious that variations in the sulphite process, for example, might cause two cooks to act quite differently from a paper making standpoint, and it would be surprising if the pulp made in one plant would be the same as that made in another, even though the process was supposed to be the same. This is just another way of saying that we do not yet know enough about the effect of small amounts of impurities to talk much about it. We are working along such lines as fast as we can but we still have much to learn.

Another question which is much before the public at present is that of the durability of paper. We know that old papers which are in good condition were made from rag stock, and it is from this that it has been assumed that papers for permanent records should be made from rags. This does not sufficiently cover the ground for there is probably little doubt that a paper made from poor grade rag stock is no better than one made from high grade chemical pulps. If the cellulose molecule is the same in all fibers it would seem that the removal of impurities from chemical pulps until they reach the same degree of purity as rag stock should make them as durable as high grade cotton or linen fibers. It is believed that this is being accomplished in some of the purified woodpulps now on the market, but unfortunately proof of the point cannot be made for another century or so. It is a most unsatisfactory state of affairs but it is true that we have at present only comparative methods of testing fibers for durability. If we expose unknown fibers to drastic conditions alongside of high grade rag fibers and on testing them find that one has not changed more than the other we assume that the fiber of unknown qualities is as durable as rag fiber.

This paper was prepared to show a little of what we know about fibers but it has proved to be more an admission of our ignorance. That in itself may be a hopeful sign for when we realize how little we know it is an added incentive to work the harder and correct our defects.

Current Paper Trade Literature

Abstracts of Articles and Notes of Papermaking Inventions Compiled by the Committee on Abstracts and Bibliography of the Technical Association of the Pulp and Paper Industry

By Clarence J. West, Chairman

For additional information regarding these abstracts subscribers should address the chairman of the Abstracts Committee, Dr. Clarence J. West, National Research Council, 21st and B. Streets, Washington, D. C.

Drier Roll Siphon Construction. C. W. Valentine assignor to The Bagley & Sewall Company. U. S. pat. 1,665,614, Apr. 10, 1928. The invention provides an improved steam joint in which the bearing is entirely outside and independent of the packing gland, so that there is no access thereto of steam or water. It also provides an improved construction for supporting the steam joint and determining the position of the suction end of the siphon pipe, so that the operator can tell by the feel of the pipe when it is in contact with the inner wall of the drying cylinder and can then adjust the pipe so that it will lie in the desired position close to, but out of contact with, the wall of the cylinder. If desired, this adjustment can be affected while the machine is running.—A. P.-C.

Apparatus for Forming and Handling Paper Rolls. G. W. Dinge. U. S. pat. 1,661,326, Mar. 6, 1928. The invention consists essentially in using an expansible and collapsible core for winding the roll, and applying paste to a certain length of the sheet on starting to wind a roll, so that the first plies which wind on the expansible core form a core out of the paper itself. After the roll has been wound, the core is collapsed and withdrawn, and can be used for winding another roll. The amount of paper to which adhesive is applied is automatically regulated. If desired, a light tube may be mounted on the collapsible core, so that when the core is removed the tube will prevent unwinding and will retain the hole through the roll substantially cylindrical.—A. P.-C.

Controlling Means for Calender Doctors. F. W. Lodding assignor to Rice, Barton & Fales, Inc. U. S. pat. 1,675,363, July 3, 1928. Each doctor is mounted on a fixed horizontal shaft which can be turned by means of a handle. Freely pivoted on each shaft is a lever which has a snap hook for engaging over a pin on the corresponding handle. The hook is held in locked position by means of a spring, so that the lever and handle normally will move together and operate as one piece with the doctor, but the hook can be disengaged by hand to release the doctor, if desired. Each lever can be operated

by means of a solenoid, and a rheostat is included in the circuit, so that by increasing the current pressure with which the doctor engages the roll can be increased. The various circuits controlling the individual doctors are connected so as to operate the doctors individually, in groups or all together, by means of push buttons.—A. P.-C.

Drive for Paper Machine Driers. E. E. Berry assignor to Beloit Iron Works. U. S. pat. 1,663,237, Mar. 20, 1928. This is an improvement on U. S. pat. 1,563,324 of Dec. 1, 1925, which covered a chain drive including an ordinary link chain trained around sprockets secured to the hubs of the drying cylinder. In the present patent, provision is made for the use of a so-called "silent chain" drive. Instead of passing the chain successively over sprockets on each of the upper and lower tiers of drums, as in the previous patent, the driers are divided into a number of sections and the chains are so arranged that the lower run drives all the bottom driers in one section, and the upper run drives all of the top driers in that section, which allows of using shorter chains. Adjustable tensioning sprockets are provided to keep the tension of the chain constant. The chains and sprockets are provided with guards which are built up in sections of rectangular cross sections which are held together by bolts, so as to be easily taken down for inspection or repair of the sprockets and chains.—A. P.-C.

Surveying the Mill for White Water Losses to Indicate Possible Savings. G. H. Chidester and E. R. Schafer, U. S. Forest Products Laboratory, Madison, Wis. Pulp and Paper 26, 1583-1587 (Nov. 8, 1928). Results are given of two mill surveys to illustrate the value to mill surveys for white water losses indicating possible savings. They showed that savings may be accomplished not only by the proper installation of save-all equipment but also by improvements in equipment arrangement and operations by the elimination of unnecessary wasteful practices. A mill survey should be the first step in any program of fiber reclamation because (1) It shows the places of excessive loss. (2) It shows whether the loss is due to excessive volume of affluent or to excessive fiber concentrations or both. (3) It shows the total monetary value of the losses. (4) It permits an accurate estimate of the permissible expenditures to correct the wastes, and of the amortization period required to write off these expenditures.—A. P.-C.

Striping Paper. E. B. Weston and W. G. Clark assignors to The Weston Paper and Manufacturing Company. U. S. pat. 1,680,711, Aug. 14, 1928. In order to stripe a paper web with straight, spaced colored lines and color trough having a lip is placed adjacent the lowermost of a pair of plain finishing rolls. A number of wick-strands are supported on the lip of the trough so that their lower ends dip into the color solution and their upper ends rest on the roll to be straightened by the drag thereof, the arrangement being such that colored lines are applied to the roll by the wicks and immediately transferred to the paper web.—A. P.-C.

Method and Apparatus for Finishing Paper. S. W. Webb, J. G. Callan and A. Allen assignors to Eastern Manufacturing Company. U. S. pat. 1,674,848, June 26, 1928. Paper is dried on the paper machine to a low moisture content, such as 4 to 5% is then supercalendered, the necessary additional moisture is added and the paper is then immediately put through a surface finishing machine such as described in J. Guild's U. S. pat. 1,277,714, of Sept. 3, 1918, in which the paper is passed beween two endless fabric belts through the nip of a press having a relatively hard and a relatively soft roll. In this way it is possible to produce a linen finish equal to the best grades of plater lawn and having a similar value. The ply of fabric directly contacting with the paper should be so formed that the individual threads are stiff and hard while the interstices between them are unobstructed. A satisfactory method of adding the moisture content is by the use of a steam box through which the paper is passed immediately before it reaches the nip between the finishing rolls, the amount of steam being so adjusted as to supply a sufficient quantity of moisture so that the weave interference pattern prevails over the plastic surface mark to about the same degree as in high grade plater lawn and that the surface is free enough from deeply marked reticulation to exhibit the gloss to a proper degree. Increase of moisture in the paper machine decreases the supercalender pressure permissible or required, decreases pressure required in the linen finish machine for getting pinch mark, and promotes plastic surface mark, so that in paper with excess of such moisture the surface mark catches up with and obscures the pinch or interference mark and reticulates or cuts up the surface and abscures the polish.—A. P.-C.

Machine for Finishing Paper. J. Speed assignor to Strathmore Paper Company. U. S. pat. 1,660,978, Feb. 28, 1928. Effects similar to those obtained by plating can be produced by passing the paper, in either sheet or web form, between a pair of hard metal rolls (preferably chilled iron) under heavy pressure, the surface of the rolls being covered with a suitable finishing material which is adhesively secured by glue or cement throughout its entire area to the metal roll. The rolls must be positively geared together to ensure their rotating at the same peripheral speed and avoid appreciable slip, which would destroy the marking surfaces.—A. P.-C.

Web-Winding Machine. W. Marcalus and R. H. Rausch assignors to Automatic Paper Machinery Company, Inc. U. S. pat. 1,669,832, May 15, 1928. The machine unwinds paper from a parent roll, slits it into strips of the desired width, perforates it at predetermined intervals, winds it upon a permanent spindle or mandrel, cuts the sheet when the desired length has been wound, and wraps, glues and discharges the wrapping rolls, all of these operations taking place automatically and continuing as long as any material remains on the parent roll and wrappers are forthcoming. The winding spindle or mandrel is provided with a longitudinal slot into which the end of the web is automatically introduced when beginning to wind a new roll, so that the use of a core which remains inside the finished roll is eliminated. When the required amount of paper has been wound, the feed rolls are automatically stopped and hold the paper and the resultant tension tears the paper along a perforation. The mechanism for winding the roll and withdrawing the spindle consists of a series-wound motor driving a gear which makes threaded engagement with a threaded outer end of the spindle and displaces it longitudinally. When the spindle reaches the winding position between the idling winding rolls, farther longitudinal movement is arrested and it is rotated by the same gear which previously caused its longitudinal travel, the thread acting as a key. After the roll is wound and wrapped, the mandrel is withdrawn by reversing the direction of the current through the armature of the motor while leaving the current through the series field unchanged. In order to keep the tension on the web constant, the torque put on the drive shaft must be increased proportionally to the increase in diameter of the roll as it is being wound: this is effected by providing a contact arm which is moved by the growing roll to the progressively throw out resistance in series with the field armature of the motor and thus increase its driving torque.—A. P.-C.

Horizontal Coarse Pulp Screen or Knotter. I. L. Laird assignor to Bird Machine Company. U. S. pat. 1,675,613, July 3, 1928. This is essentially a two-stage screen. The first stage consists of an inward-flow horizontal rotary screen, the drum of which is polygonal in cross section and is provided with a helical flange or worm to direct the rejected stock from the inlet to the outlet end. Near the discharge end is a water spray which directs the tailings into the inlet of the second stage. The latter consists of an outward flow washing drum of smaller diameter than the first stage, in which the tailings are diluted with sufficient water to effect thorough washing and removal of the good stock adhering to the coarse fibers.—A. P.-C.

SECTION OF THE
COST ASSOCIATION OF THE PAPER INDUSTRY
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Edited by Thos. J. Burke C.A. Sec.-Treas.

Our Profit Insurance*

By Henry W. Maynard[1]

It is a well known fact that for 18 consecutive years the net profits of the Gillette Safety Razor Company have been larger for each successive year.

Back in 1910 our company earned $485,000. By 1924, steady and consistent increases had brought annual earnings to ten millions; 1925, twelve millions; 1926, thirteen millions; 1927, fourteen and a half. In 1928, still gaining, we earned sixteen millions. And 1929 figures, up to the time of change over to the New Gillette Blade and Razor, continued the upward trend.

Such a record as this does not just happen. It's not like Topsy, who "just growed." Gillette profits increase year by year, because each year we definitely plan our next year's earnings, and because our entire organization is bent on making those earnings. We expect them to continue to grow because we "insure" our plans.

At the beginning of the year there is now laid before each of our chief executives a schedule of expected profits by months. In the top section is a condensed profit and loss statement for each of the twelve divisions of the coming year, starting with sales values and ending with net profits. Beneath this is a second section which gives the physical quantities of our products which must be sold if the scheduled profit is to be attained, with some detail as to domestic sales, foreign company sales, foreign agency sales and the like. A third section shows quantities which our factories must deliver, with opening and closing inventories.

The "Profit-Budget" for the Year Is Re-Checked Month by Month

These three sections represent, it will be seen, the definite responsibilities of our three major operating executives for the coming year. To deliver the anticipated profit is the general manager's responsibility. To make this profit possible through adequate sales is the task of the vice president in charge of sales. And to deliver the physical quantities needed for each month is the business of the vice president in charge of manufacturing.

When these figures are formally issued to the three responsible executives, they represent agreements already made between them. The expected percentage of profit increase is proposed by the general manager after conference with the others, and accepted by the board of directors. The total sales figure is that which the sales vice president has already undertaken to achieve, and the breakdown as to individual months is made from our previous experience with seasonal trends, and the influence on them of our increasing exports to various parts of the world.

At the beginning of the year the plan for profits and how to get them is all anticipation. At the end of the month, we have one month's experience and eleven months of anticipation. At the end of two months, the proportion is two and ten. Each month the responsible executives are given a revised "profit-budget," which shows them how much business must still be done in the remainder of the year to reach the profit schedule of the full twelve months.

So that the sales department will never lose sight of its monthly goal, it receives reports of progress at intervals during the month. And as the end of a month approaches it may receive daily reports.

Have you profit insurance coverage? The United States Department of Commerce, in conducting various business surveys, has discovered an amazing lack of accurate information concerning fundamental expense accounting, not only on the part of small owners but also of managing executives of large companies. This condition, in spite of our generally accepted high business efficiency, indicates a nationwide slackness in adequate cost control, especially in the field of distribution.

Ask yourself—

1—Do you know whether you get a 100 per cent return on every dollar?
2—Do you know promptly in what manner yesterday's dollar was lost?
3—Do you count variations from standards in making up your cost budget?
4—Do your books represent facts as well as being financial records?
5—Do you pin down costs to the men who spend the money?
6—Are your profits guessed at, or are they calculated in advance?

In addition, we have recently begun to cast up a daily profit and loss sheet, which the monthly statement proves to be sufficiently accurate to be of real value to the general manager in checking our progress toward the anticipated profits of the year. This profit and loss statement presents actual gross and net sales, expenses applied daily, and the net profit to date. At the close of the month the last-named checks closely with the actual operating statement. In these reports lies a part of our "insurance" that profits planned will be profits achieved. But it is only the beginning.

Cost Control Must Be Specially Designed for Profit Insurance

Producing a given volume of business is one thing; producing it at the anticipated cost is another. It is too frequently the case that the heads of a corporation will plan an increase in sales or output for the current year, only to find, when the anticipated volume has been achieved, that for one reason or another—or many—it was not as profitable as was expected. All through business, whether it is retailing, wholesaling, manufacturing, banking, or what, there is the tendency for sales expenses to rise faster

COST SECTION

* System.
[1] Gen. Auditor, Gillette Safety Razor Co.

than they ought to. Therefore we "insure" our profits through our cost control.

What we mean by cost control is knowing, day by day, that we are getting a dollar's worth of results for every dollar we spend, or if not, where the loss occurred, and *who was responsible.*

If this merely meant that to insure its profits every company must have a cost accounting system, there would be nothing more to say here. To have a cost system of any kind is usually better than to have none at all, but it is our experience that a cost system will not insure profit results unless it is specially designed and operated for that purpose.

Just how seriously we take our cost control is shown by the fact that although Gillette Safety Razor Company has had reasonably good cost accounting for many years, four years ago the directors authorized me to install, at no slight cost, an entirely new system which they regarded essentially as "profit insurance."

They gave me practically carte blanche in men, money, and time, to do the best job that could be done. For instance: we spent seven months in studying our problem, devising a plan, and preparing a report which explained it and analyzed the expected benefits and the costs of installation and operations. After the directors had given approval to the report, we spent another year building a new accounting organization and working out details, before even the first part of the system was installed. And we carried on the new system side by side with the old for six months before we gave our executives a single report based on the former. Altogether it was more than two and a half years after the start of our investigation before we formally swung the books of the company over to the new system.

During the six months in which we operated both the old and the new accounting, we were testing the new system to make sure it would yield to our executives the kind of information they needed. And not until we were sure did we give them their first report.

For over two years, then, our directors permitted us to go ahead with our plans and the expenditure of considerable sums of money, without a single cent of return or any actual indication of progress during the period. That is how seriously they take "profit insurance," and how anxious they were that the job should be done right. Incidentally, once the new system was in operation, the cost of its installation and operation was more than covered by the actual savings after the first ten months.

It would be impossible to outline our entire cost control system here. Nor would our system fit the precise needs of any other company. But here are what we consider some of the essentials of profit insurance.

Our Present Plan: 1—Only Timely Facts Are Important

Any cost accounting system should determine, with reasonable accuracy, the cost of making and selling products or of selling alone if the business is not manufacturing. Infinitely more important, however, is knowing *constantly* whether the company is getting a dollar's worth of return for every dollar spent—and if not, who is responsible for the lapse.

We must know promptly where yesterday's dollar was lost, in order to save tomorrow's dollar. Six months or a year is entirely too long to sail by dead reckoning. In six months new conditions may arise that could leave a company high and dry if they were not anticipated and overcome. And for many things, with the present high velocity of business trends, even a month is too long to wait.

2—Practical Cost Statements

A company's success depends upon the wisdom with which its management sets policies and uses them. They can do these things well only if supplied with properly interpreted cost facts from which accurate conclusions can be drawn. The cost statements presented to them must first of all be practical. Our general forecast used to be principally a pretty good check-up on how good a guesser our budget man was. Today it represents known facts as to the costs which ought to be achieved for a given volume of business.

Emphasis is laid upon the variations from standard. We report not only the price and quantity variations in material, labor and burden, as well as any cost of less-than-normal activity, but also the excess cost of each special or accidental occurrence, such as work done by an outside firm, or any special methods temporarily used when regular operations are inadequate or are interfered with. It is thus possible to pass quickly over the 90 per cent of cases in which the accomplishment has been satisfactory, and concentrate attention on the 10 per cent which require executive action.

3—Attainable Cost Standards

Standards are set for every item of cost. Everything—even management—must be included. Every one of the 2,500,000 blades we are manufacturing each day has, for instance, a standard cost of a very small fraction of a cent for supervision.

More important—and here is where we differ emphatically with some writers on standard costs—is our definition of a standard. Our standards represent conditions as they actually are today in our business, and they stand for an accomplishment attainable, today *under conditions of reasonably diligent manufacture.* A practice in some companies is to have a standard represent a mark set when the standard cost system is installed. If this is 1929, then in 1939 the management will have index figures of trend ratios comparing its cost achievement with the 1929 standard and with the achievement in every year in between.

"Interesting but unimportant," say we. "And not profit insurance."

What we learn about how today's dollar is being spent must ards and variations-from-standard is how closely we are coming to a reasonable accomplishment for *here and now*—not ten years ago.

4—Costs Tied to General Books

Again we differ with some companies in that we carry all these matters directly into our books of account. We want our books to be not merely financial records but to represent the facts, both visible and economic, which our executives need to know in order to get the results expected of them.

What we learn about how today's dollar is being spent must lead to action that will make tomorrow's dollar economical. We pin costs down to the men who actually spend the money. For example, in the factory there is a cost report presenting in detail the efficiency of each foreman, and we are working on the problem of accomplishing a similar result for the men in our sales organization.

Our cost figures are for use. And we are so organized that they get used. To begin with, we are not content with preparing true and useful cost reports but take special pains to make these reports clear and interesting. In addition, we interpret them so that important trends will be clear to our executives.

Our accounting division is not content with routine reports, but tries to note any special situation of which the management should know. When such a case is found, a special report, clear and interesting, is sent to our executives, sometimes with a graph to make it still more vivid.

5—The Executive "Trouble Scout"

But we go further. Attached to the staff of our vice president in charge of production is an executive whose sole business is to read and study our manufacturing cost reports, in order that he may discover and point out to manufacturing executives situations which need executive attention. To the vice president, to the superintendent, to the production engineer, to the general foreman and the foreman, he serves as "trouble scout."

Another executive has a similar position of responsibility in connection with our reports to the sales department. We sell blades in Spain, Italy, Fiji Islands, Egypt, everywhere where hair grows

on men's faces. In Spain men buy blades in packages. In Italy, where in many of the towns the barber shop is an important political and social institution, there is a tendency to buy blades one at a time. In France we sell through our own agency, in Egypt through a distributor. And in Germany, Britain, the Fijis, Cuba, China and all the rest, we have greater variety in tax and import charges than in men's faces. All of this means that we must know the cost of selling a packet of blades in each country, including the United States, and that the sales department must receive—for action—cost information of importance.

These two representatives of the manufacturing and sales departments sit with the eight accounting staff members of our accounting committee in all meetings. This strengthens the liaison and keeps us constantly alert to furnish the kind of cost information that will lead to actual control of costs.

6—Our Dynamic Accounting

Our accounting division is definitely organized for its job of being a dynamic part of the Gillette Safety Razor Company instead of merely a group of bookkeepers putting figures together. Just as in our manufacturing department one executive, the superintendent, is charged with getting results and another, the production engineer, must provide all the means of getting them, so in both our general accounting and our factory accounting departments, we have one man to get results and one man to provide the technique. Further, instead of a large group responsible to a single supervisor, we have a pyramid of small groups with intimate supervision for each, a staff of lieutenants, sergeants, and corporals; not only functioning today but building a stronger organization for the future. And one hundred employees of our accounting division, from comptometer operators to billing clerks are paid by the "Point" system—more output, more pay.

Is cost control of this character really profit insurance?

We think so. Because of it (1) we make actual savings, (2) we prevent extravagance, because each executive knows that it will be immediately reported, and (3) our insurance of profits consists of promptly showing up any influences or trends (beyond control of the individual) which might affect our profits adversely.

Much Saving During Year

In our manufacturing we are saving $250,000 a year—as against 1927 and before—in the avoidance of unnecessary factory expenses and the reduction of the amount of unsaleable products. And this is but one result of our cost control.

In our sales we have no such results to show, partly because of the different nature of the problem and partly because we have just begun to work on it. But we do know, as every one else does that although factory costs are going down, sales and advertising costs today tend to go up. We know that it is just as serious not to get a dollar of sales value for a dollar expended as not to get dollar for dollar in the factory.

We know that as time goes on and our sales program becomes larger and larger, there will be more chances for the spending of money it was not planned to spend. And we believe that it will be possible for us to provide "insurance" here as well as in the manufacturing plant.

Of course there is the unexpected. Sweeping trends in business have crippled or wiped out more than one well established company. Is there any insurance against that?

Again, we believe so. Proper cost control reduces the chances of anything unexpected happening. Corporate executives who know exactly what is going on in their plant and in their market are not liable to be caught asleep. And thus successful expansion may be assured.

Cost Data From the Production Standpoint *

By Don R. Marsh[1]

The progress of any business enterprise depends in a large measure upon the amount of cost thinking devoted to it by its management. In the early days of cost accounting, costs were ascertained, primarily to determine selling prices, but today their greatest value lies in the service which they render to shop management. The Sales Department are still interested in them for whatever their worth may be as an aid in creating sales prices and for statistical purposes.

Essential to Operating Executive

Reliable costs are essential to the operating executive of a manufacturing organization, for without proper, accurate and understandable cost information, operations cannot be planned intelligently and progress reports mean little if cost data is not obtainable when needed.

The production manager, superintendent and foremen should be interested in costs. Unfortunately, they not always are interested. Often their lack of interest, I have found to be the fault of the cost department, who have not made their cost sheets clear. As a rule, foremen make poor clerks and accountants and for that reason, figures should be presented to them in as simple form as possible and in a manner readily understandable to them.

I think that, generally, foremen resent being questioned about the cost of their operations. That resentment is usually due to their misunderstanding of costs and sometimes to their misgivings in the men that compile the figures. I know of no greater responsibility that rests upon the cost man's shoulders than his duty to train those men at the head of the various departments to read and understand cost figures that should be of interest to them.

In almost every shop organization you will find a man or two who will not, ostensibly, believe in your cost sheets, no matter how accurately and simple they may be prepared. They will tell you the overhead is too high or that the labor is not reported correctly. Also, they will tell you, that they are carrying the load of some other foreman in their overhead. These are the kind of fellows the cost man must keep after, if he is to get anywhere with them. If you persevere in that, the time will arrive when they will be coming to you seeking information to further enlighten them in matters brought out in a previous cost conference. They will try to conceal the fact they are interested, but be that as it may, you will have the satisfaction of knowing you have finally penetrated their skins and your figures are giving them some concern. When that favorable situation is at hand, a wise cost man will lend encouragement in a diplomatic manner and take special pains to give them all the enlightenment he can and invite them to come back at any time they are in doubt. By so doing, he soon will have created within them a desire to know their costs rather than a dislike for such figures.

Some Examples

I was once a cost man myself, and I had a foreman of this type to deal with. He had a fine personality, and, in intelligence, he was far above the average foreman, but he always endeavored to conceal his interest in my cost sheets. Try as I would to sell myself to him with facts as plain as the nose on his face, to all appearances, I could not get a favorable expression from him. But one day his son, who had learned his trade under his father's supervision, resigned to go into business for himself. After leaving our employ and getting his own little business under way, the father came to me to inquire as to just what might be the best

* N. A. C. A. Bulletin. Presented before the meeting of the Buffalo Chapter, N. A. C. A.

[1] Buffalo Forge Co., Buffalo, N. Y.

method for his son to keep track of his costs. He said further that the son would have to know his costs for he realized that without such knowledge he could not compete for business. From that time on to this day he has maintained a kindly regard for cost data. His department always had a pretty respectable record but the management knew he could do much better if he would only be more receptive to suggestions, and since his change of attitude toward costs, his production has been considerably increased with the same payroll.

I also had another foreman to deal with who was the exact antithesis of this man. He always was seeking cost data and made use of it in the way of simplifying his labor and measuring his departmental efficiency with it. He knew the time required to perform the various and multitudinous operations that came under his supervision and he tolerated no drones. His department proved to be the most efficient in the shop and his success was due to his knowledge of costs and their practical application to the work in hand.

Shop Management Must Be Kept Informed

Shop management must be kept informed as to the expense of operating the various shop departments. They look to the cost department to keep them in touch with the cost of operations, without which they cannot checkmate the many invisible leaks that constantly are creeping into the costs and can be detected only by the cost system.

The cost department, if it is up and doing, will be the first to discover the existence of many unusual and undesirable situations within the plant. They will see to it that corrections are made. A good cost man always will be looking for trouble. Shop management looks to him to detect many of the missteps of another. Once upon a time, during my cost days, the "big boss," who was a very successful manufacturer, told me that the cost man was supposed to be "the mean man." At first I was inclined to resent that remark and showed some fight. But, after calming down and giving the matter thought, and knowing the man as I did to be fair and square and one who was noted for speaking directly, I finally came to the conclusion that he was right. Every cost man is obliged from time to time, to make statements or reports that place a certain department or certain individual in an unfavorable light, but if his figures are correct and reflect the true situation it is up to him to present them to the management as facts without a quiver.

I know there is a tendency among some cost men to want to shield the other fellow and keep from management the details, but that is as wrong as anything can be.

An Unfair Policy

Such a policy is an injustice to the other fellow, to management and to yourself. All three lose in the end. Two wrongs never made a right, and although it sometimes causes grief to make a correction, it should be done and in the doing the cost man should feel no embarrassment for having done his duty. Suppose the drawing room were running rampant in errors and were revising too many drawings after work had progressed in the shop; suppose, the pattern shop were making too many mistakes which were not discovered until after the patterns had been in the sand and castings poured; what would you do about it? Would you passively allow this condition to ride on and pass out of the picture, or would you communicate immediately to proper authorities? If you are doing your job as it should be done, you are always looking for just such irregularities as these and you are communicating the facts to and consulting with management about applying the remedy.

Management expects the cost man to pass along to it such information as it should have to control properly the plant that he gathers through his accounting records or obtains by observation, whether it be favorable, unfavorable, or indifferent. That is what a cost department is for.

Protest Freight Rate Case Reopening

Protests are reaching the Interstate Commerce Commission from a number of sources because of attempts of the Central Freight Association to re-open the Minnesota and Ontario freight rate case. Paper mills of the Fox River Valley are especially active because they are so vitally affected, and are supported in their contentions by the Champion Coated Paper Company, the Fox Paper Company, and the Minnesota-Ontario Paper Company, the original complainant in the case.

These companies all request that the petition be denied because the lines petitioning had practically no participation in the traffic moving under the rates covered by the commission in the case; because the Central Freight Association gave no good reasons for the reopening, and because the Minnesota and Ontario Company's shipments of news print go from their mills at International Falls, Minn., and Fort Frances, Ont., to destinations in western and south western trunk line territory and do not affect the territory of the Central Freight Association. It is claimed by the mills also that the decision of the commission has been accepted for eight years as final, and if re-opened, shippers and carriers would not be inclined to feel that any of the decisions are final no matter how many times re-affirmed.

The Champion Coated Paper Company is interested in the case because this company is the complainant at the present time in a case against the A. G. S. Railway now pending before the commission charging that rates on paper from Hamilton, Ohio, to south western destinations are unreasonable and discriminatory as compared with rates for the Fox River District of Wisconsin. Should the Minnesota and Ontario case be re-opened, the Champion's case would be weakened. The Champion company also argues that the rates in effect for the last eight years have been used as a precedent, and that carriers who were defendants in the original case are not parties to this petition. The Fox Paper Company merely wants its interests protected against adverse decisions and requests dismissal. Mills at Green Bay are in the largest towel, napkin and toilet paper producing center in the world, with an annual tonnage of 50,000, and it is only since the decisions of 1922 that the business has been carried on under an orderly adjustment of rates.

Regulating Flow of the Hudson

Conklingville, N. Y., March 10, 1930.—Gates on the Conklingville Dam through which it is proposed to regulate the flow of the Hudson River for the benefit of paper manufacturing industries will be closed on April 1, according to the Hudson River Regulating Commission. The waters of the Hudson when impounded will form a reservoir almost as large as Lake George. Not only will regulation of the flow of the stream be used in generating power for the industries in this district but it will also mean a safeguard against freshets.

Another element in the regulation of the river is that the paper industries using the water will have a more even flow at all seasons whereas in past years low water has handicapped in summer with excessive high marks at other seasons. In recent years paper mills in the vicinity of Corinth have been extremely handicapped in the periods of drought and the new dam is expected to eliminate this condition. Communities and paper concerns all along the river have been assessed for the cost of building the dam but it is believed that eventually the expenditure will be returned through assessments for waterpower privileges and saving in property damages.

Rock Heads Mutual Box Board

Roger I. Rock was elected president of the Mutual Box Board Company for the ensuing year at the annual organization meeting. Other officers elected included W. T. Baker as vice president and A. G. Butts as secretary and treasurer. The directors elected were W. T. Baker, O. W. Gridley, R. J. Rock, W. L. Roberts and Walter F. Roberts.

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Hogs
Shredders

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Washers
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Jordans
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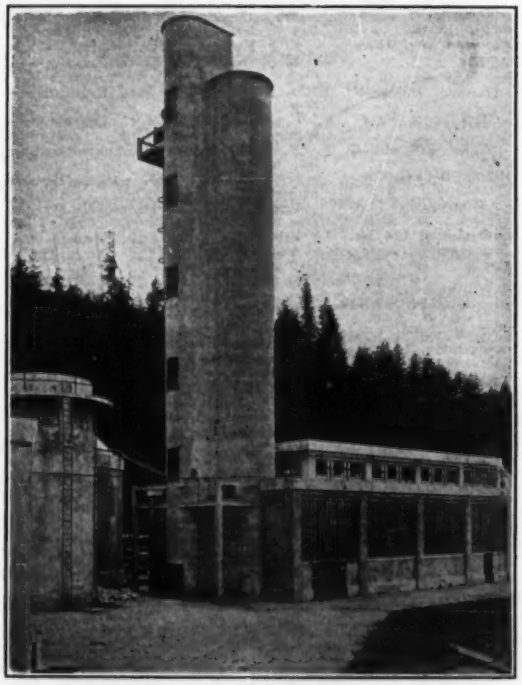

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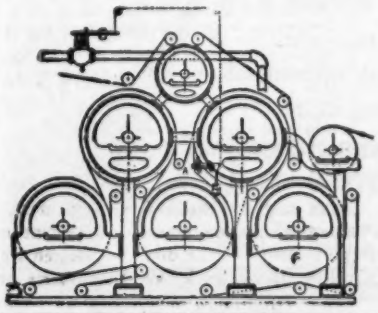

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will do everything we claim for it and more. The test costs you nothing until you are satisfied. Many mills tried one and now have every machine equipped. Write for list of users and other information.

W. F. PICKLES Buckland, Conn.

IMPORTS OF PAPER AND PAPER STOCK

NEW YORK, BOSTON, PHILADELPHIA AND OTHER PORTS

NEW YORK IMPORTS

WEEK ENDING MARCH 15, 1930

SUMMARY

Cigarette paper .....333 cs.
Wall paper .....16 bls., 15 cs.
Paper hangings .....55 bls., 25 cs.
Raw hanging stock .....285 bls.
News print .....1,221 rolls
Printing paper .....109 cs., 66 rolls
Wrapping paper .....15 cs.
Colored paper .....31 cs.
Decalcomania paper .....43 cs.
Drawing paper .....66 cs.
Filter paper .....154 bls., 7 cs.
Writing paper .....7 cs.
Tissue paper .....15 cs.
Metal paper .....49 cs.
Surface coated paper .....7 cs.
Gold coated paper .....6 cs.
Photo paper .....6 cs.
Coated paper .....6 cs.
Transparent greaseproof paper .....50 cs.
Cover paper .....7 cs.
Miscellaneous paper ....378 rolls, 186 bls., 72 cs.

CIGARETTE PAPER

De Manduit Paper Corp., Indep. Hall, Havre, 282 cs.

Liggett & Myers Tobacco Co., Aurania, Southampton, 25 cs.

Standard Products Corp., Aurania, Southampton, 26 cs.

WALL PAPER

F. J. Emmerich, America, Hamburg, 5 bls.

M. Snedeker Corp., American Banker, London, 1 cs.

Irving Trust Co., Milwaukee, Hamburg, 12 cs.

J. E. Bernard & Co., Milwaukee, Hamburg, 6 bls.

F. A. Binder, Yorck, Bremen, 5 bls.

Universal Car Loading Co., Bremen, Bremen, 1 cs.

J. E. Bernard & Co., Pres. Harding, Hamburg, 1 cs.

PAPER HANGINGS

W. H. S. Lloyd & Co., Minnewaska, London, 17 cs., 32 bls.

Kensington Wall paper Co., Milwaukee, Hamburg, 2 bls.

A. C. Dodman, Jr., Inc., Cedric, Liverpool, 17 bls.

Whiting & Patterson Co., Inc., Majestic, Southampton, 4 cs., 4 bls.

F. L. Kramer & Co., Majestic, Southampton, 4 cs.

RAW HANGING STOCK

F. & R. Trading Corp., Pres. Harding, Hamburg, 285 bls.

NEWS PRINT

Perkins, Goodwin & Co., Milwaukee, Hamburg, 501 rolls.

Parsons & Whittemore, Inc., Yorck, Bremen, 720 rolls.

PRINTING PAPER

Hensel, Bruckman & Lorbacher, America, Hamburg, 5 cs.

Keuffel & Esser, America, Hamburg, 35 rolls.

F. L. Kramer & Co., American Banker, London, 6 cs.

J. Henschel & Co., Milwaukee, Hamburg, 14 cs.

Walker, Goulard, Plehn Co., Yorck, Bremen, 23 cs.

Keuffel & Esser Co., Pres. Harding, Hamburg, 31 rolls.

E. Dietzgen & Co., Westerdyk, Rotterdam, 55 cs.

C. Steiner, Anjer, Marseilles, 6 cs.

WRAPPING PAPER

Atlantic Forwarding Co., America, Hamburg, 15 cs.

COLORED PAPER

S. Gilbert, Yorck, Bremen, 12 cs.

F. L. Kramer & Co., Yorck, Bremen, 5 cs.

E. Hennigson Co., Yorck, Bremen, 2 cs.

E. Daiber, Ala, Antwerp, 12 cs.

DECALCOMANIA PAPER

C. W. Sellers, Milwaukee, Hamburg, 15 cs.

C. W. Sellers, Yorck, Bremen, 2 cs.

C. W. Sellers, Bremen, Bremen, 15 cs.

C. W. Sellers, Pres. Harding, Hamburg, 11 cs

DRAWING PAPER

Keuffel & Esser Co., America, Hamburg, 59 cs

Keuffel & Esser Co., Pres. Harding, Hamburg 5 cs.

H. Reeve Angel & Co., Inc., Minnewaska, London, 2 cs.

FILTER PAPER

American Express Co., American Banker, London, 1 cs.

H. Reeve Angel & Co., Inc., Minnewaska, London, 6 cs.

J. Manheimer, Majestic, Southampton, 134 bls.

A. Giese & Son, Majestic, Southampton, 20 bls.

WRITING PAPER

T. D. Downing Co., Majestic, Southampton, 1 cs.

Globe Shipping Co., Majestic, Southampton, 1 cs.

Titan Shipping Co., Majestic, Southampton, 2 cs.

J. Wanamaker, Majestic, Southampton, 1 cs.

Guibout Freres, Majestic, Southampton, 2 cs.

TISSUE PAPER

G. W. Sheldon & Co., Minnewaska, London, 2 cs.

B. F. Drakenfeld & Co., Cedric, Liverpool, 6 cs.

F. B. Vandegrift & Co., Scythia, Liverpool, 3 cs.

Meadows, Wye & Co., Scythia, Liverpool, 4 cs.

METAL PAPER

Hensel, Bruckman & Lorbacher, America, Hamburg, 10 cs.

K. Pauli Corp., Yorck, Bremen, 39 cs.

SURFACE COATED PAPER

Tamm & Co., Milwaukee, Hamburg, 7 cs.

GOLD COATED PAPER

F. Murray Hill Co., Yorck, Bremen, 6 cs.

PHOTO PAPER

Phoenix Shipping Co., Yorck, Bremen, 2 cs.

J. J. Gavin Co., Majestic, Southampton, 4 cs.

COATED PAPER

W. A. Foster & Co., Majestic, Southampton, 3 cs.

W. J. Byrnes, Majestic, Southampton, 3 cs.

TRANSPARENT GREASEPROOF PAPER

Central Hanover Bank & Trust Co., Milwaukee, Hamburg, 50 cs.

COVER PAPER

International Forwarding Co., Milwaukee, Hamburg, 7 cs.

MISCELLANEOUS PAPER

The Borregaard Co., Inc., Gripsholm, Gothenburg, 378 rolls, 167 bls.

Hensel, Bruckman & Lorbacher, Yorck, Bremen, 11 cs.

D. F. Young, Yorck, Bremen, 19 cs.

Oxford University Press, Cedric, Liverpool, 8 cs.

Heemsoth, Basse Co., Westerdyk, Rotterdam, 19 bls.

Paper Service Co., Westerdyk, Rotterdam, 15 cs.

E. Dietzgen & Co., Westerdyk, Rotterdam, 17 cs.

F. C. Strype, Conte Grande, Genoa, 2 cs.

RAGS, BAGGINGS, ETC.

Equitable Trust Co., Wacosta, Odessa, 465 bls. rags.

Equitable Trust Co., Wacosta, Odessa, 128 bls. new cuttings.

——, Gerolstein, Antwerp, 598 bls. rags.

Amtorg Trading Corp., Gateway City, Odessa, 4,315 bls. rags.

Equitable Trust Co., Gateway City, Odessa, 557 bls. rags.

Royal Manfg. Co., Coahoma County, Rotterdam, 129 bls. cotton waste.

Darmstadt, Scott & Courtney, Coahoma County, Rotterdam, 56 bls. thread waste.

E. J. Keller Co., Inc., Coahoma County, ——, 42 bls. rags.

E. J. Keller Co., Inc., Kioto, ——, 151 bls flax waste.

E. J. Keller Co., Inc., Kioto, ——, 24 bls. rags.

E. J. Keller Co., Inc., Arizpa, ——, 392 bls. rags.

E. J. Keller Co., Inc., Dresden, ——, 37 bls. rags.

E. J. Keller Co., Inc., Clairton, ——, 68 bls. bagging.

N. Y. Trust Co., Milwaukee, Hamburg, 30 bls. jute waste.

Irving Trust Co., Milwaukee, Hamburg, 53 bls. nappers.

Irving Trust Co., Milwaukee, Hamburg, 26 bls. rags.

Erie R. R. Co., Yorck, Bremen, 49 bls. rags.

American Express Co., Indep. Hall, Havre, 10 bls. rags.

D. M. Hicks, Inc., Indep. Hall, Havre, 49 bls. rags.

Irving Trust Co., Indep. Hall, Dunkirk, 90 bls. rags.

International Purchasing Co., Ala, Antwerp, 43 bls. bagging.

Forte Dupee Sawyer Co., Ala, Antwerp, 45 bls. rags.

N. Y. Trust Co., Ala, Antwerp, 25 bls. rags.

Darmstadt, Scott & Courtney, Ala, Antwerp, 111 bls. bagging.

Castle & Overton, Inc., Siboney, Havana, 40 bls. new cuttings.

Amtorg Trading Corp., Pres. Harding, Hamburg, 19 bls. flax waste.

Darmstadt, Scott & Courtney, Pres. Harding, Bremen, 62 bls. bagging.

N. Y. Trust Co., Pres. Harding, Bremen, 48 bls. paper stock.

C. R. Spence & Co., Scythia, Liverpool, 80 bls. rags.

Jaffe Products Co., Sud Argentino, Havana, 57 bls. rags.

Castle & Overton, Inc., Sud Argentino, Buenos Ayres, 509 bls. paper stock.

W. Steck & Co., Sud Argentino, Buenos Ayres, 71 bls. bagging.

W. Steck & Co., Sud Argentino, Buenos Ayres, 27 bls. new cuttings.

Interstate Trust Co., Westerdyk, Rotterdam, 50 bls. rags.

Darmstadt, Scott & Courtney, Westerdyk, Rotterdam, 10 bls. rags.

Guaranty Trust Co., Tagliamento, Genoa, 47 bls. hemp waste.

Guaranty Trust Co., Tagliamento, Genoa, 20 bls. rags.

G. W. Millar & Co., Vestvard, Genoa, 30 bls. flax waste.

——, Vestvard, Genoa, 300 bls. fleshings.

S. Birkenstein & Sons, Vestvard, Barcelona, 135 bls. rags.

P. Berlowitz, Vestvard, Barcelona, 154 bls. rags.

S. Birkenstein & Sons, Anjer, Barcelona, 194 bls. rags.

S. Birkenstein & Sons, Anjer, Barcelona, 72 bls. jute waste.

International Germanic Trust Co., Anjer, Barcelona, 168 bls. rags.

E. J. Keller Co., Inc., Anjer, ——, 118 bls. rags.

OLD ROPE

Brown Bros. & Co., America, Hamburg, 60 coils.

Brown Bros. & Co., Coahoma County, Rotterdam, 46 coils, 30 bls.

W. Steck & Co., Coahoma County, Rotterdam, 40 coils.

(Continued on page 84)

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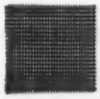

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Boston Birmingham Chicago Pittsburgh Los Angeles Tulsa
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Imports of Paper and Paper Stock

Continued from page 82

G. W. Millar & Co., Coahoma County, Rotterdam, 55 coils.
Brown Bros. & Co., Milwaukee, Hamburg, 58 coils.
Brown Bros. & Co., Oscar II, Copenhagen, 124 coils.
Brown Bros. & Co., Ala, Antwerp, 91 coils.
Brown Bros. & Co., Sacandaga, Rotterdam, 46 coils.
W. Steck & Co., Pres. Harding, Hamburg, 38 bls., 5 coils.
Brown Bros. & Co., Westerdyk, Rotterdam, 54 pkgs., 20 bls., 41 coils.
Brown Bros. & Co., Bristol City, Bristol, 199 coils.
International Purchasing Co., Vestvard, Barcelona, 109 coils.
E. J. Keller Co., Inc., Arizpa, ——, 66 coils.

CASEIN

Atterbury Bros., Inc., American Legion, Buenos Ayres, 1,667 bags.

WOOD PULP

E. J. Keller Co., Inc., America, ——, 352 bls. wood pulp, 54 tons.
Castle & Overton, Inc., Coahoma County, Rotterdam, 160 bls. wood pulp, 31 tons.
The Borregaard Co., Inc., Norefjord, Sarpsborg, 336 bls. sulphate.
J. Andersen & Co., Norefjord, Sarpsborg, 300 bls. sulphite.
J. Andersen & Co., Norefjord, Greaker, 2,660 bls. sulphite.

WOOD FLOUR

State Chemical Co., Coahoma County, Rotterdam, 555 bags, 34,900 kilos.
A. Kramer & Co., Westerdyk, Rotterdam, 100 bags.
F. W. Schmalz, Westerdyk, Rotterdam, 280 bags.
——, Westerdyk, Rotterdam, 500 bags.

PHILADELPHIA IMPORTS

WEEK ENDING MARCH 15, 1930

Amtorg Trading Corp., Exporter, Novorossisk, 1,653 bls. rags.
National Bank of Boston, Bristol City, Bristol, 279 bls. rags.
Old Colony Trust Co., Bristol City, Bristol, 85 coils old rope.
J. A. Steer & Co., Bristol City, Bristol, 57 coils old rope.
National Waste Co., Vestvard, Genoa, 14 bls. cotton waste.
S. E. Ingber, Vestvard, Barcelona, 67 bls. rags.
National City Bank, Vestvard, Barcelona, 193 bls. fleshings.
Liberty National Bank, Vestvard, Marseilles, 118 bls. rags.
Banco Com'l Italiane Trust Co., Vestvard, Leghorn, 264 bls. rags.
E. J. Keller Co., Inc., Bilderdyk, ——, 46 bls. rags.
E. J. Keller Co., Inc., Tomalva, ——, 207 bls. rags.

BALTIMORE IMPORTS

WEEK ENDING MARCH 15, 1930

Congoleum Nairn Co., Indep. Hall, Dunkirk, 464 bls. rags.
Baltimore Trust Co., Indep. Hall, Dunkirk, 72 bls. rags.
Congoleum Nairn Co., Ala, Antwerp, 894 bls. rags, 182 bls. bagging.
——, Ala, Antwerp, 69 coils old rope.

BOSTON IMPORTS

WEEK ENDING MARCH 15, 1930

E. J. Keller Co., Inc., Tomalva, ——, 68 bls. rags.

Overnight Service on Chain Drives Started

To one who is at all observant of what is going on in the field of industry, it is apparent that better distribution of materials and supplies is a definite trend of the times, and this is not surprising, for it is the next logical step following the simplification program which was so skillfully fostered by President Hoover while he was Secretary of Commerce.

One result of this movement toward better distribution is the locating of large stocks of standard parts required by industry, in strategic centers throughout the country—a result which benefits both the maker and user. Coupled with the trend toward simplification, it reduces losses formerly incurred by users in paying premiums of time and money for special goods shipped from distant points.

An exponent of this modern distribution efficiency is the Link-Belt Company, Indianapolis, Ind., known for over 50 years as a manufacturer of power transmission and materials handling equipment. Silent Chain Drives have been stocked by Link-Belt distributors for 6 years. Now comes the latest extension of this power transmission service with the "stocking" of Link-Belt Roller Chain Drives (the two wheels and the chain) by local distributors, on about the same basis.

These two types of drives, Silent Chain and Roller Chain, are employed in a large percentage of all power transmission jobs, and their quick availability throughout the country constitutes a service which is convenient and economically desirable.

To enable chain users to take fullest advantage of this service, Link-Belt has further prepared an entirely new data book on Roller Chain, which contains such complete engineering information and tables that the user can select the correct drive for his particular purpose, figure the price, then order the drive from a distributor or dealer for immediate delivery.

Steam Jet Heaters For Liquids

The Schutte & Koerting Company, of Philadephia, has just issued a new and completely revised edition of Bulletin 3-A, describing the SK line of steam jet heaters for water and other liquids. These jet heaters have a great many applications in process work in manufacturing plants. The booklet contains many valuable charts.

New Ljungstrom Air Preheater Bulletin

The Air Preheater Corporation, of Wellsville, New York, have just issued a valuable bulletin on the Ljungstrom Air Preheater. This bulletin contains several charts illustrating the benefits obtained from air preheating, gives examples of the savings that can be accomplished under typical operating conditions, fully explains the functions and advantages of air preheaters, compares various types of equipment for this purpose, and discusses in detail the features of construction and special advantages of the Ljungstrom Air Preheater.

The bulletin is profusely illustrated with sectional views, diagrams and photographs of installations, and is exceptionally thorough in its presentation of all phases of the subject of air preheating. Readers may obtain copies by addressing the Air Preheater Corporation, Wellsville, New York, asking for Bulletin 130.

Paper Mill Employment

Reports are in the hands of the Bureau of Labor Statistics, Department of Labor, from 202 paper and pulp mills which gave their December employment at 59,560, increasing in January to 59,863, an increase of 0.5 per cent. The payrolls in these mills, on the other hand, decreased from $1,640,644 in December to $1,604,014 in January, a decrease of 2.2 per cent.

Reports were also received by the Bureau from 184 paper box plants which gave their December employment at 20,186, decreasing in January to 18,750, a decrease of 7.1 per cent. The payrolls in these plants, too, decreased from $467,399 in December to $423,475 in January, a decrease of 9.4 per cent.

Automatic Web Control Catalog

The John Waldron Corporation has just issued a new catalog on the subject of "Automatic Web Control." The bulletin describes, in an interesting manner, the correct web control used in the processing or converting of a fiber sheet in a continuous operation, which is the means of producing a more finished article, more uniform bundles, and with less waste. Controls manufactured by the corporation are profusely illustrated and the booklet also contains pictures of the many different types of machinery made. Copies of the bulletin may be secured by applying to the John Waldron Corporation, New Brunswick, N. J.

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IN USE SINCE 1898

EMPIRE PULP STONE

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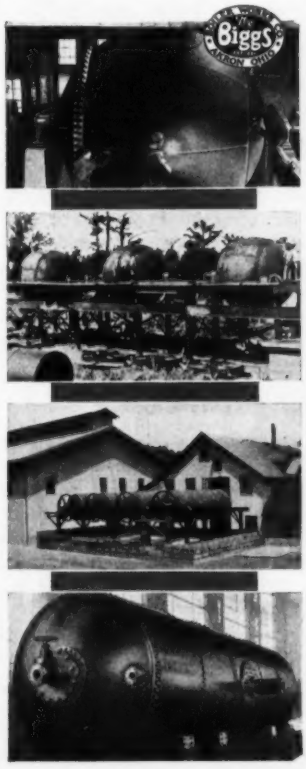

Top—Biggs Welded Rotary Digester
Second—Biggs Riveted Rotary Digesters
Third—Biggs Standard Cylinder Rotary Bleaching Boilers
Bottom—Biggs Tumbling Digester

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Welded Globe Rotary Digesters
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The Biggs Boiler Works Company
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Daily Capacity, 525 Tons

Newsprint
Catalog and Directory
Packers Oiled Manila
Fibre Wrapping
Specialties

General Sales Office
LINCOLN BUILDING
60 East 42nd St.
NEW YORK

New York Market Review

Office of the PAPER TRADE JOURNAL,
Wednesday, March 19, 1930.

Trading in the local paper market was moderately active during the past week. Most of the business transacted was along routine lines. Sales forces of the leading paper houses are conducting a strenuous campaign but competition for desirable orders is very keen and reports of concessions on some of the standard grades are frequent.

Production of news print paper in Canada and the United States is being maintained at an average of 72 per cent of capacity, according to statistics gathered by the News Print Service Bureau. Stocks held by the mills at the end of February totalled 60,150 tons, which was equivalent to 3.6 days' average output. A better feeling is developing among the various interests and the outlook is decidedly brighter.

The paper board market is practically unchanged. Production of box board is proceeding at approximately 75 per cent of capacity. The price situation remains unsatisfactory. The fine paper market continues to exhibit a strong undertone. Tissues are moving in seasonal volume. The coarse paper market is spotty. There is considerable unsettlement in the southern kraft price situation and the movement of tonnage is decidedly limited.

Mechanical Pulp

Steadiness prevails in the ground wood market. With more favorable weather conditions production has increased slightly and the output is sufficient to take care of current requirements. Shipments against contract have been moving in satisfactory volume. Prices are generally holding to schedule and shading is infrequent.

Chemical Pulp

Some improvement was noticed in the demand for both imported and domestic chemical pulp. Inquiries for the more popular grades are more numerous and a number of orders have been booked for forward delivery. Contract shipments are moving at a normal pace for the time of year. Prices are holding to formerly quoted levels, in most instances.

Old Rope and Bagging

The old rope market was rather quiet during the past week. Domestic and imported old manila rope were in moderate request. Mixed strings continue to go forward in fair volume. Prices of old rope are practically unchanged. No radical changes were reported in the bagging market. Gunny bagging is active at present, but scrap is only in light demand. The movement of roofing bagging is below normal for the season.

Rags

Demand for the better grades of domestic rags is persistent, especially for cotton cuttings. Roofing rags are only moving in moderate volume for the time of year. Mixed rags are fairly steady. Quotations on domestic rags are practically unchanged. No further developments have been reported in the foreign rag market and prices abroad are still considered high.

Waste Paper

Little improvement was noticed in the demand for the various grades of paper stock. The paper board mills do not seem to be purchasing the lower grades to any extent although prices are below normal for the season. The better grades of waste paper are steady to firm. Soft white shavings and book stock are still in good demand.

Twine

With the approach of Easter the local twine market is gradually becoming more buoyant and demand for the various grades is expanding. It is anticipated that generally improved conditions will be experienced for several weeks, at least. Prices are generally being maintained at formerly quoted levels, despite keen competition for extra large orders.

Hopes to Resume at South Glens Falls Plant

GLENS FALLS, N. Y., March 15, 1930.—Officials of the International Paper Company are just as anxious to have the South Glens Falls plant in operation as are the residents of this section. A communication stating that the company hopes to be able to utilize the mill for some purpose was read at this week's meeting of the common council which also explained that the curtailment was caused by business conditions. The company's response was made in a reply to a request by village authorities to have operations resumed.

Farewell To Clinton V. Cassidy

CORINTH, N. Y., March 3, 1930.—Several hundred members of the Employees Mutual Benefit Association gathered in the Community Building this week in tendering a farewell reception to Clinton V. Cassidy, who resigned recently as manager of the local branch of the International Paper Company. Mr. Cassidy was presented with a gift from the association in behalf of mill employees and delivered a brief address of appreciation and regret that he must leave his many friends. He plans to take over his new duties immediately as assistant general manager of the New York office.

Chase Bag Co. Opens New Addition

INDIANAPOLIS, Ind., February 24, 1930.—J. Dana Cramer, manager of the Chase Bag Company's plant at Goshen, Ind., recently was host to an open house held in the company's new addition, recently completed. Employees and their friends were guests and nearly 1,000 were entertained. Dancing and refreshments constituted the entertainment. The new building is 120 by 330 feet, with cement floor. As rapidly as possible various departments in the company's four-story building on Chicago avenue in Goshen, will be moved into the new structure. The addition cost about $60,000.

Awards for Government Paper

WASHINGTON, D. C., March 19, 1930.—The R. P. Andrews Paper Company has been awarded the contract for furnishing the Government Printing Office with 25,000 pounds (21,500 sheets) of No. 2 quality hard rolled binders board, 20 x 26¼ inches at .035 cents per pound, bids for which were received on March 5.

Barton, Duer & Koch Paper Company will furnish 5,000 sheets of 24 x 36 inches brown cloth lined paper at $133.00 per M, bids for which were received on February 21.

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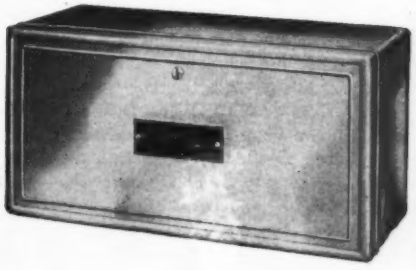

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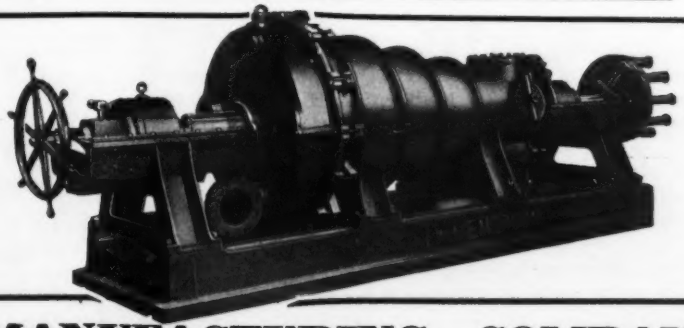

THE EMERSON MANUFACTURING COMPANY
Division of John W. Bolton & Sons, Incorporated LAWRENCE - - - - MASSACHUSETTS

3741

Miscellaneous Markets

Office of the PAPER TRADE JOURNAL,
Wednesday, March 19, 1930.

BLANC FIXE.—Conditions in the blanc fixe market were practically unchanged. Demand for both the pulp and the powder was fairly active. The pulp is quoted at from $42.50 to $45.00 per ton, in bulk, while the powder is selling at from 3¾ cents to 4½ cents per pound, in barrels, at works.

BLEACHING POWDER.—Demand for bleaching powder was seasonal. Shipments against contract are proceeding at a normal pace for the time of year. Prices are generally holding to previously quoted levels. Bleaching powder is quoted at from $2.00 to $2.35 per 100 pounds, in drums, at works.

CASEIN.—No radical changes were reported in the casein market. Domestic casein is selling at from 14 cents to 16½ cents per pound, while Argentine standard ground is quoted at from 14 cents to 14½ cents, and finely ground at from 14½ cents to 15 cents per pound, all in bags, car lot quantities.

CAUSTIC SODA.—The caustic soda market was rather quiet during the past week. Contract shipments are moving in fair volume. Prices are steady. Solid caustic soda is quoted at from $2.90 to $2.95, and the flake and the ground at from $3.30 to $3.35 per 100 pounds, in large drums, at works.

CHINA CLAY.—Some improvement was noticed in the china clay market. The contract movement is well up to average. Prices remain unchanged. Imported china clay is quoted at from $15 to $25 per ton, ship side, while domestic paper making clay is selling at from $8 to $13 per ton, at mine.

CHLORINE.—Supplies of chlorine are moving into consumption in fairly satisfactory volume. Demand is mostly along routine lines. Prices are generally holding to schedule. Chlorine is quoted at $2.50 per 100 pounds, in tanks, or multi-unit cars, in ton lots, or over, at works.

ROSIN.—Business in the rosin market continues quiet. Prices again declined. The grades of gum rosin used in the paper mills are quoted at from $7.55 to $8.20 per 280 pounds, in barrels, on dock. Wood rosin is selling at from $6.00 to $6.50 per 280 pounds, in barrels, at southern shipping points.

SALT CAKE.—Offerings of salt cake continue scarce. The working of natural deposits in Arizona is expected to relieve the situation, in some quarters, although high freight rates may prove a factor in retaining the strength of the market. Salt cake is quoted at from $22 to $25 per ton, in bulk.

SODA ASH.—There are signs of gradual improvement in the soda ash market. Shipments against contract are moving in better volume. Prices are holding to schedule and shading is infrequent. Contract quotations on soda ash, in car lots, at works, are as follows: in bags, $1.32½; and in barrels, $1.55.

STARCH.—Trading in the starch market was fairly satisfactory. Demand for this product is mostly seasonal. The contract movement is normal. Recently revised prices remain unchanged. Special paper making starch is quoted at $3.72 per 100 pounds, in bags, and at $3.99 per 100 pounds, in barrels.

SULPHATE OF ALUMINA.—The position of the sulphate of alumina market is fairly sound. Supplies are going forward to the paper mills in good volume. Prices are unchanged. Commercial grades are quoted at from $1.40 to $1.55 and iron free at from $1.90 to $2.05 per 100 pounds, in barrels, at works.

SULPHUR.—Production of sulphur is being maintained in good volume. Prices are steady. Sulphur is quoted at $18 per ton, at mine, for orders of 1,000 tons, or over, on yearly contracts, and at $20 per ton for any smaller quantity over that period. On spot and near by car loads, the quotation is $21 per ton.

TALC.—Steadiness prevails in the talc market. Demand is fairly persistent. Prices are holding to previously quoted levels without difficulty. Domestic talc is quoted at from $16 to $18 per ton, in bulk, at eastern mines, while imported talc is selling at from $18 to $20 per ton, in bags, ship side.

Market Quotations

Paper
(F. o. b. Mill)

Ledgers	11.00	@	38.00
Bonds	9.00	@	53.25
Writings—			
Extra Superfine	14.00	@	32.00
Superfine	14.00	@	32.00
Tub sized	10.00	@	15.00
Engine sized	8.00	@	11.00
Book, Cased—			
S. & S. C.	6.00	@	7.50
M. F.	5.75	@	7.00
Coated and Enamel	7.50	@	12.00
Lithograph	7.50	@	12.00
Tissues—Per Ream—			
White No. 1	.75	@	1.00
Anti-Tarnish	1.35	@	1.90
Colored	1.00	@	2.00
White No. 2	.75	@	.80
Kraft	1.00	@	1.10
Manila	.75	@	.80
Kraft—			
No. 1 Domestic	6.00	@	6.50
No. 2 Domestic	3.87½	@	5.00
Southern	3.75	@	4.50
Imported	6.50	@	7.00
Manila—			
No. 1 Jute	9.00	@	9.25
No. 2 Jute	7.75	@	8.50
No. 1 Wood	4.75	@	5.25
No. 2 Wood	4.00	@	4.50
Butchers	3.75	@	4.25
Fibre Papers—			
No. 1 Fibre	5.00	@	5.50
No. 2 Fibre	4.75	@	5.25
Common Bogus	2.75	@	3.00
Screenings	3.00	@	3.25
Card Middles	4.00	@	5.00
Glassine—			
Bleached, basis 25 lbs.	13.00	@	16.00
Bleached, basis 20 lbs.	15.00	@	16.00

(Delivered New York)

News, per ton—			
Rolls, contract	62.00	@	—
Rolls, spot	62.00	@	—
Sheets	67.00	@	—
Side Runs	47.00	@	52.00
Boards—per ton—			
News	37.50	@	—
Straw	52.50	@	—
Chip	35.00	@	—
Binders' Boards	65.00	@	70.00
Wood Pulp	90.00	@	95.00
65 Test Jute Liner	45.00	@	47.50
85 Test Jute Liner	50.00	@	55.00
Sgl. Mla. Ll. Chip	47.50	@	50.00

Mechanical Pulp
(On Dock)

No. 1 Imported—			
Moist	30.00	@	32.00
Dry	32.00	@	34.00

(F. o. b. Mill)

No. 1 Domestic	28.00	@	32.00
Screenings	15.00	@	20.00

Chemical Pulp
(On Dock, Atlantic Ports)

Sulphite (Imported)—			
Bleached	3.25	@	4.25
Easy Bleaching	2.80	@	3.05
No. 1 strong unbleached	2.65	@	2.75
Mitscherlich unbleached	2.70	@	3.00
No. 2 strong unbleached	2.40	@	2.60
No. 1 Kraft	2.30	@	2.50
No. 2 Kraft	2.25	@	2.40
Sulphate—			
Bleached	3.40	@	3.85

(F. o. b. Pulp Mill)

Sulphite (Domestic)—			
Bleached	3.20	@	4.75
Easy Bleaching Sulphite	2.65	@	3.00
News Sulphite	2.50	@	2.70
Mitscherlich	3.00	@	3.25
Kraft (Domestic)	2.10	@	3.30
Soda Bleached	3.10	@	3.25
Sulphate Screenings—			
Coarse	.75	@	.95
Refined	1.65	@	1.85

Domestic Rags
New Rags
(Prices to Mill f. o. b. N. Y.)

Shirt Cuttings—			
New White, No. 1	9.50	@	10.50
New White, No. 2	7.50	@	8.00
Silesias No. 1	7.50	@	8.00
New Unbleached	10.50	@	11.00
New Blue Prints	5.25	@	5.50
New Soft Blacks	5.25	@	5.75
Blue Overall	7.25	@	7.75
Washables	4.75	@	5.25
Fancy	5.50	@	6.00
Mixed Khaki Cuttings	4.75	@	5.25
Pink Corset Cuttings	8.00	@	8.50
O. D. Khaki Cuttings	5.15	@	5.75
Men's Corduroy	3.75	@	4.25
New Mixed Blacks	3.50	@	3.75

Old Rags

White, No. 1—			
Repacked	5.50	@	6.00
Miscellaneous	4.50	@	5.00
White, No. 2—			
Repacked	3.00	@	3.50
Miscellaneous	2.50	@	2.75
St. Soiled, White	2.00	@	2.15
Thirds and Blues—			
Repacked	2.25	@	2.50
Miscellaneous	1.75	@	2.00
Black Stockings	3.25	@	3.75
Roofing Rags—			
Cloth Strippings	1.70	@	1.80
No. 1	1.70	@	1.80
No. 2	1.55	@	1.65
No. 3	1.30	@	1.40
No. 4	1.25	@	1.35
No. 5A	.90	@	1.00

Foreign Rags
New Rags

New Dark Cuttings	2.50	@	3.00
New Mixed Cuttings	2.75	@	3.25
New Light Silesias	7.00	@	7.50
Light Flannelettes	7.50	@	8.00
Unbleached Cuttings	10.00	@	11.00
New White Cuttings	10.00	@	10.50
New Light Oxfords	7.00	@	7.50
New Light Prints	5.50	@	6.50

Old Rags

No. 1 White Linens	7.25	@	8.00
No. 2 White Linens	5.75	@	6.75
No. 3 White Linens	4.75	@	5.25
No. 4 White Linens	3.00	@	3.50
No. 1 White Cotton	5.50	@	6.50
No. 2 White Cotton	4.50	@	5.50
No. 3 White Cotton	3.00	@	4.00
No. 4 White Cotton	2.00	@	2.10
Extra Light Prints	2.75	@	3.25
Ord. Light Prints	2.25	@	2.50
Med. Light Prints	1.95	@	2.10
Dutch Blue Cottons	2.20	@	2.35
French Blue Linens	2.75	@	2.85
German Blue Linens	2.35	@	2.55
German Blue Cottons	2.10	@	2.20
Checks and Blues	1.85	@	2.00
Lindsay Garments	1.85	@	1.95
Dark Cottons	1.50	@	1.55
Old Shopperies	1.45	@	1.50
New Shopperies	1.40	@	1.45
French Blues	2.10	@	2.25

Old Rope and Bagging
(Prices to Mill f. o. b. N. Y.)

Gunny No. 1—			
Foreign	1.50	@	1.60
Domestic	1.60	@	1.70
Wool Tares, light	1.60	@	1.65
Wool Tares, Heavy	1.60	@	1.70
Bright Bagging	1.60	@	1.70
Small Mixed Rope	1.25	@	1.40
Manila Rope—			
Foreign	4.25	@	4.40
Domestic	4.25	@	4.50
New Burlap Cut	2.75	@	3.00
Hessian Jute Threads—			
Foreign	3.50	@	4.00
Domestic	3.25	@	3.50

Old Waste Papers
(F. o. b. New York)

Shavings—			
Hard, white, No. 1	3.00	@	3.25
Hard, white, No. 2	2.40	@	2.55
Soft, White, No. 1	2.40	@	2.55
White envelope cuttings	2.90	@	3.10
Flat Stock—			
Stitchless	1.45	@	1.55
Overissue Mag.	1.45	@	1.55
Solid Flat Book	1.40	@	1.50
Crumpled No. 1	1.00	@	1.10
Solid Book Ledger	2.00	@	2.10
Ledger Stock	1.40	@	1.50
New B. B. Chips	.45	@	.55
Manilas—			
New Env. Cut	2.40	@	2.60
New Cuttings	1.50	@	1.75
Extra No. 1 old	1.25	@	1.35
Print	.60	@	.65
Container	.40	@	.50
Bogus Wrapper	.60c	@	.65
Old Kraft Machine Compressed bales	1.65	@	1.75
News—			
No. 1 White News	1.65	@	1.75
Strictly Overissue	.55	@	.65
Strictly Folded	.45	@	.55
No. 1 Mixed Paper	.25	@	.30
Common Paper	.15	@	.65

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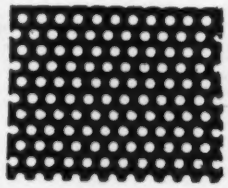
For Pulp and Paper Mills

STEEL, COPPER, BRASS, BRONZE, MONEL METAL and other Alloys punched for Centrifugal and Rotary Screens, Pulp Washers, Drainer Bottoms, Filter Plates, etc.



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RAGS — BURLAP
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JUTE BUTTS, MAGAZINES, CATALOGS OLD PAPERS, THREAD WASTE AND ALL GRADES OF RAGS CUT QUICKLY AND EFFICIENTLY WITH THE

This is the GIANT 2A CUTTER WITH A CAPACITY OF 3000 lbs. PER HOUR GIANT RAG CUTTERS HAVE CAPACITIES OF FROM 1 to 5 tons per hour.

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500 Tons Daily

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Twines
(F. o. b. Mill)

Cotton—			
No. 1	.39	@	.40
No. 2	.37	@	.38
No. 3	.36	@	.37
B. C., 18 basis	.38	@	.40
A. B. Italian, 18 basis	.48	@	.53
Finished Jute—			
Dark 18 basis	.24	@	.25
Light 18 basis	.27	@	.28
Jute Wrapping, 3-6 Ply—			
No. 1	.19	@	.21
No. 2	.18	@	.20
Tube Rope—			
4-ply and larger	.16	@	.17
Fine Tube Yarn—			
5-ply and larger	.2.	@	.25
4-ply	.25	@	.29
3-ply	.28	@	.32
Unfinished India—			
Basis	.13	@	.14
Paper Makers Twine			
Balls	.11	@	.12
Box Twine, 2-3 ply	.15	@	.17
Jute Rope	.17	@	.19
Amer. Hemp, 6	.29	@	.31
Sisal Hay Rope—			
No. 1 Basis	.16	@	.18
No. 2 Basis	.14	@	.16
Sisal Lath Yarn—			
No. 1	.14	@	.16
No. 2	.12	@	.14
Manila Rope	.22	@	.24

CHICAGO

Paper
(F. o. b. Mill)

Rag Bond	.30	@	.53¼
Water Marked Sulphite Bond	.09	@	.12
Sulphite Bond	.06¼	@	.11
Superfine writing	.18	@	.24
No. 1 fine writing	.14	@	.18
No. 2 fine writing	.12	@	.14
No. 3 fine writing	.08½	@	.12
No. 1 M. F. Book	.06½	@	.07¼
No. 2 M. F. Book	.05¾	@	.06¾
No. 1 S.&S.C. Book	.06¾	@	.07¾
No. 2 S.&S.C. Book	.05¾	@	.06½
Coated Book	.07½	@	.12
Coated Label	.07½	@	.10
No. 1 Manila	.04¼	@	.05¾
No. 1 Fibre	.04¾	@	.05¼
No. 2 Manila	.04¼	@	.04¾
Butcher's Manila	.04	@	.04½
No. 1 Kraft	.06¼	@	.06½
Southern Kraft	4.25	@	4.50
No. 2 Kraft	.04	@	.04¼
Wood Tag Boards	.04¾	@	.06¾
Sulphite Screenings	.03	@	.03¾
Manila Tissue—			
24x36 Sheet	.07	@	.07¼
White Tissue—			
20x30 Sheet	.07¼	@	.07½
(Delivered Central Territory)			
News, per ton—			
Rolls, contract	62.00	@	—
Sheets	67.00	@	—
Boards, per ton—			
Plain Chip	37.50	@	42.50
Solid News	47.50	@	—
Solid News	40.00	@	45.00
Manila Lined Chip	50.00	@	55.00
Container Lined—			
85 Test	65.00	@	70.00
100 Test	70.00	@	—

Old Papers
(F. o. b. Chicago)

Shavings—			
No. 1 Hard White	2.35	@	2.40
White Env. Cuttings	2.60	@	2.65
No. 1 Soft Shavings	2.10	@	2.15
No. 1 Mixed	.60	@	.70
No. 2 Mixed	.50	@	.60
Ledger & Writings	1.25	@	1.35
Solid Books	1.05	@	1.10
Blanks	1.60	@	1.65
Kraffs	1.65	@	1.75
New Kraft Cuts	2.15	@	2.25
Manila Envelope Cuttings	1.75	@	1.80
Ex. No. 1 Manila	1.30	@	1.45
Print Manila	.60	@	.70
Folded News (over-issue	.50	@	.60
Old Newspapers—			
No. 1	.60	@	.65
No. 2	.50	@	.55
Mixed Papers—			
No. 1	.45	@	.50
Roonng Stocks—			
(F. o. b. Chicago, net cash)			
No. 1	30.00	@	—
No. 2	28.00	@	—

PHILADELPHIA

Paper
(F. o. b. Mill)

Bonds	.05	@	.40
Ledgers	.08	@	.40
Writings—			
Superfine	.12½	@	.18
Extra fine	.18	@	.22
Fine	.17	@	.26
Fine, No. 2	.15	@	.25
Fine, No. 3	.09	@	.20
Book, M. F.	.05	@	.07
Book, S. S. & C.	.05	@	.07½
Book, Coated	.09	@	.16
Coated Lithograph	.07	@	.11
Label	.07	@	.11
No. 1 Jute Manila	.07	@	.09
Manila Sul., No. 1	.04	@	.05½
Manila No. 2	.03	@	.04
No. 2 Kraft	.03¾	@	.05½
No. 1 Kraft	.05½	@	.06½
Common Bogus	.04½	@	.05
(Delivered Philadelphia)			
News Print Rolls	62.00	@	—
Straw Board	32.50	@	70.00
News Board	37.50	@	38.50
Chip Board	32.50	@	35.00
Wood Pulp Board	85.00	@	95.00
Binder Boards—			
No. 1, per ton	75.00		
No. 2, per ton	70.00		
Carload lots	68.00	@	70.00
Tarred Felts—			
Regular	55.50	@	57.00
Slaters (per roll)	.84	@	.94
Best Tarred, 1-ply (per roll)	1.95	@	2.10
Best Tarred, 2-ply (per roll)	1.50	@	1.60
Best Tarred, 3-ply	2.00	@	2.25

Domestic Rags (New)
(Price to Mill, f. o. b. Phila.)

Shirt Cuttings—			
New White, No. 1	.10½	@	.11
New White, No. 2	.07	@	07½
Light Silesias	.07	@	07½
Silesias, No. 1	.07	@	.09
Black Silesia, soft	.05	@	.05½
New Unbleached	.10½	@	.11
Washable, No. 1	.04½	@	.05
Blue Overall	.07½	@	.—
Cottons—According to grades—			
Washable, No. 2	.03	@	—
New Blue	.03	@	.03¼
Fancy	.05¼	@	.06
New Black Soft	.03	@	.05¾
New Light Seconds	.02½	@	.03
New Dark Seconds	1.85	@	2.00
Khaki Cuttings—			
No. 1 O. D.	.05½	@	.05¾
No. 2 Mixed	.04½	@	.04¾
Corduroy	.03	@	.03½
New Canvas	.08½	@	.09
New Black Mixed	.03¾	@	.04½

Bagging
(F. o. b. Phila.)

Gunny, No. 1—			
Foreign	1.50	@	1.60
Domestic	1.75	@	—
Manila Rope	3.50	@	4.00
Sisal Rope	1.50	@	—
Mixed Rope	1.10	@	1.25
Scrap Burlaps—			
No. 1	1.50	@	1.60
No. 2	1.10	@	1.20
Wool Tares, heavy	3.00	@	—
Mixed Strings	1.15	@	1.25
No. 1, New Light Burlap	2.50	@	2.75
New Burlap Cuttings	2.00	@	2.25

Old Papers
(F. o. b. Phila.)

Shavings—			
No. 1 Hard White	2.65	@	2.75
No. 2 Hard White	2.30	@	2.50
No. 1 Soft White	2.25	@	2.50
No. 2 Soft White	1.40	@	1.60
No. 1 Mixed	1.40	@	1.50
No. 2 Mixed	.80	@	.90
Solid Ledger Stock	1.55	@	1.65
Writing Paper	1.00	@	1.15
No. 1 Books, heavy	1.15	@	1.20
No. 2 Books, light	.90	@	.100
No. 1 New Manila	2.30	@	2.50
No. 1 Old Manila	1.50	@	1.60
Print Manila	.40	@	.50
Container Manila	.30	@	.35
Old Kraft	1.40	@	1.50
Common Paper	.15	@	.20
No. 1 Mixed Paper	.15	@	.20
Straw Board, Chip	.35	@	.40
Binders Board, Chip	.35	@	.45
Overissue News	.40	@	.45
Old Newspaper	.25	@	.30

Domestic Rags (Old)

White, No. 1—			
Repacked	4.25	@	4.50
Miscellaneous	3.50	@	3.75
M. G.	7.00	@	—
Thirds and Blues—			
Repacked	2.00	@	2.25
Miscellaneous	1.60	@	1.80
Black Stockings (Export)	3.90	@	4.25
Roofing Stock—			
Foreign No. 1	1.65	@	1.75
Repacked	.01½	@	.01½
No. 2	1.20	@	1.25
No. 3 (Roofing)	1.10	@	1.20
No. 4	1.00	@	1.—
No. 5A	.75	@	8[illegible]
B	65	@	.75
C	.65	@	7[illegible]

BOSTON

Paper
(F. o. b. Mill)

Ledgers—			
Sulphite	.07½	@	.12½
Rag content	.15	@	.30
All rag	.38	@	.52½
Bonds—			
Sulphite	.06½	@	.11½
Rag content	.15	@	.30
All rag	.36½	@	.65
Writings	.06½	@	.20
Superfines	.11	@	.31
Book, Super	.06	@	.09
Book, M. F.	.05½	@	.08½
Book, Coated	.08½	@	.18
Coated Litho	.09	@	.12
Label	.09½	@	.15
Jute Manila No. 1	.11	@	.13
Manila, Sul. No. 1	.04¾	@	.06½
Manila, Sul. No. 2	.03¾	@	.04½
No. 1 Kraft	.06¼	@	.06½
No. 2 Kraft	.03¾	@	.05
Common Bogus	.02	@	.02¾
Delivered New England points			
News Print Rolls	61.50	@	—
Straw Boards, rolls .009			52.50
Straw Board in Sheets, basis 35s to 70s	54.50	@	55.00
Filled News Board	37.50	@	40.00
Chip Board	35.00	@	37.50
Single Manila Lined Chip	47.50	@	52.50
Single White, Patent Coated Newsboard			
Bender	65.00	@	80.00
Wood Pulp Board	75.00	@	80.00
Binder Boards	70.00	@	75.00
(F. o. b. Mill)			
Tarred Felts—			
Regular, carload lots	65.00	@	—

Old Papers
(F. o. b. Boston)

Shavings—			
No. 1 Hard White	3.25	@	3.75
No. 2 Hard White	2.60	@	2.90
No. 1 Soft White	2.40	@	2.50
No. 1 Mixed	1.10	@	1.15
No. 2 Mixed	.85	@	.90
Solid Ledger Stock	2.35	@	2.45
No. 1 Books, Heavy	1.50	@	1.55
No. 1 Books, Light	—	@	1.15
Manila Env. Cuttings	2.00	@	2.25
No. 1 Old Manila	.90	@	1.00
White Blank News	1.60	@	1.70
Old Kraft	—	@	1.50
Print Manila	.80	@	.90
No. 1 Mixed Paper	—	@	.27½
Overissue News	.45	@	.55
Old Newspapers	.45	@	.50
Box Board, Chip	.45	@	.50

Bagging
(F. o. b. Boston)

Gunny No. 1—			
Foreign	1.40	@	1.55
Manila Rope—			
Foreign	—	@	4.25
Domestic	—	@	4.50
Transmission Rope	—	@	2.75
Mixed Strings	.90	@	1.00
Jute Wool Strings	1.00	@	1.05
Jute Carpet Threads	1.05	@	1.15
Scrap Burlaps	—	@	1.35
Scrap Sisal	1.55	@	1.75
Scrap Sisal for shredding	1.75	@	2.00
Wool Tares, heavy	1.60	@	—
New Burlap Cutting	1.90	@	2.00
Australian Wool Pouches	3.00	@	3.12½

Domestic Rags (New)
(F. o. b. Boston)

Shirt Cuttings—			
New White No. 1	.08½	@	—
Silesias, No. 1	.06	@	.06¾
New Unbleached	.09¾	@	—
Fancy	.04	@	.04½
Washable	.04	@	.04½
Cottons—According to grades			
Blue Overalls	.06¼	@	.06¾
New Black, soft	.04	@	.04¾
Khaki Cuttings	.04	@	.04¾
O D. Khaki	.05	@	—
Corduroy	.03	@	03½
New Canvas	.08	@	08¾

Domestic Rags (Old)
(F. o. b. Boston)

Canvas	.04½	@	—
White No. 1—			
Repacked	4.75	@	5.45
Miscellaneous	5.00	@	—
White No. 2—			
Repacked	.04½	@	05
Miscellaneous	.03½	@	.04
Twos and Blues	2.75	@	3.01
Thirds and Blues—			
Repacked	2.25	@	2.50
Miscellaneous	1.75	@	1.90
Black Stockings	—	@	4.00
Roofing Stock—			
No. 1	1.65	@	1.75
No. 2	1.40	@	1.50
No. 3	1.05	@	1.10
No. 4	1.10	@	1.15

Foreign Rags
(F. o. b. Boston)

Dark Cottons	1.45	@	1.50
New No. 1 Shirt Cuttings	9.00	@	9.50
Dutch Blues	2.00	@	2.10
Lace Curtains	4.75	@	5.00
New Checks & Blues	4.25	@	4.00
Old Fustians	1.90	@	2.00
Old Linsey Garments	1.80	@	1.85

TORONTO

Paper
(F. o. b. Mill)

Bond—			
No. 1 Sulphite	.12½	@	—
No. 2 Sulphite	.10¾	@	—
No. 1 Colored	.13½	@	—
No. 2 Colored	.11¾	@	—
Ledgers (sulphite)	—	@	—
Ledgers, No. 1	.36	@	—
Ledgers, No. 2	.27	@	—
Writing	.09½	@	.10
Book—			
No. 1 M. F. (carloads)	7.50	@	—
No. 2 M. F. (carloads)	7.25	@	—
No. 3 M. F. (carloads)	7.00	@	—
No. 1 S. C. (carloads)	8.00	@	—
No. 2 S. C. (carloads)	7.75	@	—
No. 3 S. C. (carloads)	7.50	@	—
No. 1 Coated and Litho	13.25	@	—
No. 2 Coated and Litho	12.25	@	—
No. 3 Coated and Litho	11.50	@	—
Coated tinted	14.50	@	—
Wrapping—			
Rag Brown	4.95	@	—
White Wrap	3.25	@	—
"B" Manila	5.80	@	—
No. 1 Manila	6.65	@	—
Fiber	6.65	@	—
Kraft, M. F.	7.00	@	—
White, No. 2	2.00	@	2.25

(Delivered Toronto)

News, per ton—			
Rolls (contract)	61.50	@	62.00
Sheets	67.00	@	—

Pulp
(F. o. b. Mill)

Ground Wood	31.00	@	32.00
Sulphite easy bleaching	60.00	@	—
Sulphite news grade	60.00	@	—
Sulphite, bleached	77.00	@	78.00
Sulphate	60.00	@	—

Old Waste Paper
(In carload lots, f. o. b. Toronto)

Shavings—			
White Env. Cut	3.00	@	—
Soft White Book Shavings	2.85	@	—
White Blk. News	1.60	@	—
Book and Ledger—			
Flat Magazine and Book Stock (old)	1.40	@	—
Light and Crumpled Book Stock	1.25	@	—
Ledgers and Writings	1.50	@	—
Solid Ledgers	1.50	@	—
Manilas—			
New Manila Cut	1.50	@	—
Printed Manilas	1.00	@	—
Kraft	2.25	@	—
News and Scrap—			
Strictly Overissue	.85	@	—
Strictly Folded	.85	@	—
No. 1 Mixed Paper	.65	@	—

Domestic Rags
(Price to mills, f. o. b. Toronto)

No. 1 White Shirt Cuttings	.09¼	@	.10
Fancy Shirt Cuttings	.08	@	.08¼

Miscellaneous Markets

Office of the PAPER TRADE JOURNAL,
Wednesday, March 19, 1930.

BLANC FIXE.—Conditions in the blanc fixe market were practically unchanged. Demand for both the pulp and the powder was fairly active. The pulp is quoted at from $42.50 to $45.00 per ton, in bulk, while the powder is selling at from 3¾ cents to 4½ cents per pound, in barrels, at works.

BLEACHING POWDER.—Demand for bleaching powder was seasonal. Shipments against contract are proceeding at a normal pace for the time of year. Prices are generally holding to previously quoted levels. Bleaching powder is quoted at from $2.00 to $2.35 per 100 pounds, in drums, at works.

CASEIN.—No radical changes were reported in the casein market. Domestic casein is selling at from 14 cents to 16½ cents per pound, while Argentine standard ground is quoted at from 14 cents to 14½ cents, and finely ground at from 14½ cents to 15 cents per pound, all in bags, car lot quantities.

CAUSTIC SODA.—The caustic soda market was rather quiet during the past week. Contract shipments are moving in fair volume. Prices are steady. Solid caustic soda is quoted at from $2.90 to $2.95, and the flake and the ground at from $3.30 to $3.35 per 100 pounds, in large drums, at works.

CHINA CLAY.—Some improvement was noticed in the china clay market. The contract movement is well up to average. Prices remain unchanged. Imported china clay is quoted at from $15 to $25 per ton, ship side, while domestic paper making clay is selling at from $8 to $13 per ton, at mine.

CHLORINE.—Supplies of chlorine are moving into consumption in fairly satisfactory volume. Demand is mostly along routine lines. Prices are generally holding to schedule. Chlorine is quoted at $2.50 per 100 pounds, in tanks, or multi-unit cars, in ton lots, or over, at works.

ROSIN.—Business in the rosin market continues quiet. Prices again declined. The grades of gum rosin used in the paper mills are quoted at from $7.55 to $8.20 per 280 pounds, in barrels, on dock. Wood rosin is selling at from $6.00 to $6.50 per 280 pounds, in barrels, at southern shipping points.

SALT CAKE.—Offerings of salt cake continue scarce. The working of natural deposits in Arizona is expected to relieve the situation, in some quarters, although high freight rates may prove a factor in retaining the strength of the market. Salt cake is quoted at from $22 to $25 per ton, in bulk.

SODA ASH.—There are signs of gradual improvement in the soda ash market. Shipments against contract are moving in better volume. Prices are holding to schedule and shading is infrequent. Contract quotations on soda ash, in car lots, at works, are as follows: in bags, $1.32½; and in barrels, $1.55.

STARCH.—Trading in the starch market was fairly satisfactory. Demand for this product is mostly seasonal. The contract movement is normal. Recently revised prices remain unchanged. Special paper making starch is quoted at $3.72 per 100 pounds, in bags, and at $3.99 per 100 pounds, in barrels.

SULPHATE OF ALUMINA.—The position of the sulphate of alumina market is fairly sound. Supplies are going forward to the paper mills in good volume. Prices are unchanged. Commercial grades are quoted at from $1.40 to $1.55 and iron free at from $1.90 to $2.05 per 100 pounds, in barrels, at works.

SULPHUR.—Production of sulphur is being maintained in good volume. Prices are steady. Sulphur is quoted at $18 per ton, at mine, for orders of 1,000 tons, or over, on yearly contracts, and at $20 per ton for any smaller quantity over that period. On spot and near by car loads, the quotation is $21 per ton.

TALC.—Steadiness prevails in the talc market. Demand is fairly persistent. Prices are holding to previously quoted levels without difficulty. Domestic talc is quoted at from $16 to $18 per ton, in bulk, at eastern mines, while imported talc is selling at from $18 to $20 per ton, in bags, ship side.

Market Quotations

Paper
(F. o. b. Mill)

Ledgers	11.00	@38.00
Bonds	9.00	@53.25
Writings—		
Extra Superfine	14.00	@32.00
Superfine	14.00	@32.00
Tub sized	10.00	@15.00
Engine sized	8.00	@11.00
Book, Cased—		
S. & S. C.	6.00	@ 7.50
M. F.	5.75	@ 7.00
Coated and Enamel	7.50	@12.00
Lithograph	7.50	@12.00
Tissues—Per Ream—		
White No. 1	.75	@ 1.00
Anti-Tarnish	1.35	@ 1.90
Colored	1.00	@ 2.00
White No. 2	.75	@ .80
Kraft	1.00	@ 1.10
Manila	.75	@ .80
Kraft—		
No. 1 Domestic	6.00	@ 6.50
No. 2 Domestic	3.87½	@ 5.00
Southern	3.75	@ 4.50
Imported	6.50	@ 7.00
Manila—		
No. 1 Jute	9.00	@ 9.25
No. 2 Jute	7.75	@ 8.50
No. 1 Wood	4.75	@ 5.25
No. 2 Wood	4.00	@ 4.50
Butchers	3.75	@ 4.25
Fibre Papers—		
No. 1 Fibre	5.00	@ 5.50
No. 2 Fibre	4.75	@ 5.25
Common Bogus	2.75	@ 3.00
Screenings	3.00	@ 3.25
Card Middles	4.00	@ 5.00
Glassine—		
Bleached, basis 25 lbs.	13.00	@16.00
Bleached, basis 20 lbs.	15.00	@16.00

(Delivered New York)

News, per ton—		
Rolls, contract	62.00	@ —
Rolls, spot	62.00	@ —
Sheets	67.00	@ —
Side Runs	47.00	@52.00
Boards—per ton—		
News	37.50	@ —
Straw	52.50	@ —
Chip	35.00	@ —
Binders' Boards	65.00	@70.00
Wood Pulp	90.00	@95.00
65 Test Jute Liner	45.00	@47.50
85 Test Jute Liner	50.00	@55.00
Sgl. Mla. Ll. Chip	47.50	@50.00

Mechanical Pulp
(On Dock)

No. 1 Imported—		
Moist	30.00	@32.00
Dry	32.00	@34.00

(F. o. b. Mill)

No. 1 Domestic	28.00	@32.00
Screenings	15.00	@20.00

Chemical Pulp
(On Dock, Atlantic Ports)

Sulphite (Imported)—		
Bleached	3.25	@ 4.25
Easy Bleaching	2.80	@ 3.05
No. 1 strong unbleached	2.65	@ 2.75
Mitscherlich unbleached	2.70	@ 3.00
No. 2 strong unbleached	2.40	@ 2.60
No. 1 Kraft	2.30	@ 2.50
No. 2 Kraft	2.25	@ 2.40
Sulphate—		
Bleached	3.40	@ 3.85

(F. o. b. Pulp Mill)

Sulphite (Domestic)—		
Bleached	3.20	@ 4.75
Easy Bleaching Sulphite	2.65	@ 3.00
News Sulphite	2.50	@ 2.70
Mitscherlich	3.00	@ 3.25
Kraft (Domestic)	2.10	@ 3.30
Soda Bleached	3.10	@ 3.25
Sulphate Screenings—		
Coarse	.75	@ .95
Refined	1.65	@ 1.85

Domestic Rags
New Rags
(Prices to Mill f. o. b. N. Y.)

Shirt Cuttings—		
New White, No. 1	9.50	@ 10.50
New White, No. 2	7.50	@ 8.00
Silesias No. 1	7.50	@ 8.00
New Unbleached	10.50	@11.00
New Blue Prints	5.25	@ 5.50
New Soft Blacks	5.25	@ 5.75
Blue Overall	7.25	@ 7.75
Washables	4.75	@ 5.25
Fancy	5.50	@ 6.00
Mixed Khaki Cuttings	4.75	@ 5.25
Pink Corset Cuttings	8.00	@ 8.50
O. D. Khaki Cuttings	5.15	@ 5.75
Men's Corduroy	3.75	@ 4.25
New Mixed Blacks	3.50	@ 3.75

Old Rags

White, No. 1—		
Repacked	5.50	@ 6.00
Miscellaneous	4.50	@ 5.00
White, No. 2—		
Repacked	3.00	@ 3.50
Miscellaneous	2.50	@ 2.75
St. Soiled, White	2.00	@ 2.15
Thirds and Blues—		
Repacked	2.25	@ 2.50
Miscellaneous	1.75	@ 2.00
Black Stockings	3.25	@ 3.75
Roofing Rags—		
Cloth Strippings	1.70	@ 1.80
No. 1	1.70	@ 1.80
No. 2	1.55	@ 1.65
No. 3	1.30	@ 1.40
No. 4	1.25	@ 1.35
No. 5A	.90	@ 1.00

Foreign Rags
New Rags

New Dark Cuttings	2.50	@ 3.00
New Mixed Cuttings	2.75	@ 3.25
New Light Silesias	7.00	@ 7.50
Light Flannelettes	7.50	@ 8.00
Unbleached Cuttings	10.00	@11.00
New White Cuttings	10.00	@10.50
New Light Oxfords	7.00	@ 7.50
New Light Prints	5.50	@ 6.50

Old Rags

No. 1 White Linens	7.25	@ 8.00
No. 2 White Linens	5.75	@ 6.75
No. 3 White Linens	4.75	@ 5.25
No. 4 White Linens	3.00	@ 3.50
No. 1 White Cotton	5.50	@ 6.50
No. 2 White Cotton	4.50	@ 5.50
No. 3 White Cotton	3.00	@ 4.00
No. 4 White Cotton	2.00	@ 2.10
Extra Light Prints	2.75	@ 3.25
Ord. Light Prints	2.25	@ 2.50
Med. Light Prints	1.95	@ 2.10
Dutch Blue Cottons	2.20	@ 2.35
French Blue Linens	2.75	@ 2.85
German Blue Linens	2.35	@ 2.55
German Blue Cottons	2.10	@ 2.20
Checks and Blues	1.85	@ 2.00
Lindsay Garments	1.85	@ 1.95
Dark Cottons	1.50	@ 1.55
Old Shopperies	1.45	@ 1.50
New Shopperies	1.40	@ 1.45
French Blues	2.10	@ 2.25

Old Rope and Bagging
(Prices to Mill f. o. b. N. Y.)

Gunny No. 1—		
Foreign	1.50	@ 1.60
Domestic	1.60	@ 1.70
Wool Tares, light	1.60	@ 1.65
Wool Tares, Heavy	1.60	@ 1.70
Bright Bagging	1.60	@ 1.70
Small Mixed Rope	1.25	@ 1.40
Manila Rope—		
Foreign	4.25	@ 4.40
Domestic	4.25	@ 4.50
New Burlap Cut	2.75	@ 3.00
Hessian Jute Threads—		
Foreign	3.50	@ 4.00
Domestic	3.25	@ 3.50

Old Waste Papers
(F. o. b. New York)

Shavings—		
Hard, white, No. 1	3.00	@ 3.25
Hard, white, No. 2	2.40	@ 2.55
Soft, White, No. 1	2.40	@ 2.55
White envelope cuttings	2.90	@ 3.10
Flat Stock—		
Stitchless	1.45	@ 1.55
Overissue Mag.	1.45	@ 1.55
Solid Flat Book	1.40	@ 1.50
Crumpled No. 1	1.00	@ 1.10
Solid Book Ledger	2.00	@ 2.10
Ledger Stock	1.40	@ 1.50
New B. B. Chips	.45	@ .55
Manilas—		
New Env. Cut	2.40	@ 2.60
New Cuttings	1.50	@ 1.75
Extra No. 1 old	1.25	@ 1.35
Print	.60	@ .65
Container	.40	@ .50
Bogus Wrapper	.60c	@ .65
Old Kraft Machine Compressed bales	1.65	@ 1.75
News—		
No. 1 White News	1.65	@ 1.75
Strictly Overissue	.55	@ .65
Strictly Folded	.45	@ .55
No. 1 Mixed Paper	.25	@ .30
Common Paper	.15	@ .65

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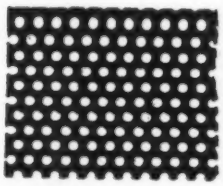
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GIANT
RAGS — BURLAP
BAGGING — ROPE
JUTE BUTTS, MAGAZINES, CATALOGS OLD PAPERS, THREAD WASTE AND ALL GRADES OF RAGS CUT QUICKLY AND EFFICIENTLY WITH THE

This is the GIANT 2A CUTTER WITH A CAPACITY OF 3000 lbs. PER HOUR
GIANT RAG CUTTERS HAVE CAPACITIES OF FROM 1 to 5 tons per hour.

TAYLOR, STILES & COMPANY GIANT RIEGELSVILLE, N.J. U.S.A.

THE STANDARD OF THE WORLD FOR 59 YEARS
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AMERICAN MADE FOR THE AMERICAN TRADE

H. T. BRAND COATING CLAY
and
High Grade Filler Clay

Edgar Clays are the result of almost half a century of experience in Washing Clay. Technical Service available for both coating and loading without charge.

EDGAR BROS. CO.
50 Church St. New York

500 Tons Daily

We will be glad to send you samples—

Twines
(F. o. b. Mill)

Cotton—			
No. 1	.39	@	.40
No. 2	.37	@	.38
No. 3	.36	@	.37
B. C., 18 basis	.38	@	.40
A. B. Italian, 18 basis	.48	@	.53
Finished Jute—			
Dark 18 basis	.24	@	.25
Light 18 basis	.27	@	.28
Jute Wrapping, 3-6 Ply—			
No. 1	.19	@	.21
No. 2	.18	@	.20
Tube Rope—			
4-ply and larger	.16	@	.17
Fine Tube Yarn—			
5-ply and larger	.2.	@	.25
4-ply	.25	@	.29
3-ply	.28	@	.32
Unfinished India—			
Basis	.13	@	.14
Paper Makers Twine Balls	.11	@	.12
Box Twine, 2-3 ply	.15	@	.17
Jute Rope	.17	@	.19
Amer. Hemp, 6	.29	@	.31
Sisal Hay Rope—			
No. 1 Basis	.16	@	.18
No. 2 Basis	.14	@	.16
Sisal Lath Yarn—			
No. 1	.14	@	.16
No. 2	.12	@	.14
Manila Rope	.22	@	.24

CHICAGO

Paper
(F. o. b. Mill)

Rag Bond	.30	@	.53¼
Water Marked Sulphite Bond	.09	@	.12
Sulphite Bond	.06¾	@	.11
Superfine writing	.18	@	.24
No. 1 fine writing	.14	@	.18
No. 2 fine writing	.12	@	.14
No. 3 fine writing	.08½	@	.12
No. 1 M. F. Book	.06½	@	.07¼
No. 2 M. F. Book	.05¼	@	.06¼
No. 1 S.&S.C. Book	.06¾	@	.07¾
No. 2 S.&S.C. Book	.05¾	@	.06½
Coated Book	.07½	@	.12
Coated Label	.07½	@	.10
No. 1 Manila	.04¼	@	.05¾
No. 1 Fibre	.04¾	@	.05¼
No. 2 Manila	.04¼	@	.04¾
Butcher's Manila	.04	@	.04½
No. 1 Kraft	.06¼	@	.06½
Southern Kraft	4.25	@	4.50
No. 2 Kraft	.04	@	.04¼
Wood Tag Boards	.04¼	@	.06¼
Sulphite Screenings	.03	@	.03¾
Manila Tissue—			
24x36 Sheet	.07	@	.07¼
White Tissue—			
20x30 Sheet	.07¼	@	.07½
(Delivered Central Territory)			
News, per ton—			
Rolls, contract	62.00	@	—
Sheets	67.00	@	—
Boards, per ton—			
Plain Chip	37.50	@	42.50
Solid News	47.50	@	—
Solid News	40.00	@	45.00
Manila Lined Chip	50.00	@	55.00
Container Lined—			
85 Test	65.00	@	70.00
100 Test	70.00	@	—

Old Papers
(F. o. b. Chicago)

Shavings—			
No. 1 Hard White	2.35	@	2.40
White Env. Cuttings	2.60	@	2.65
No. 1 Soft Shavings	2.10	@	2.15
No. 1 Mixed	.60	@	.70
No. 2 Mixed	.50	@	.60
Ledger & Writings	1.25	@	1.35
Solid Books	1.05	@	1.10
Blanks	1.60	@	1.65
Krafts	1.65	@	1.75
New Kraft Cuts	2.15	@	2.25
Manila Envelope Cuttings	1.75	@	1.80
Ex. No. 1 Manila	1.30	@	1.45
Print Manila	.60	@	.70
Folded News (overissue	.50	@	.60
Old Newspapers—			
No. 1	.60	@	.65
No. 2	.50	@	.55
Mixed Papers—			
No. 1	.45	@	.50
Roofing Stocks—			
(F. o. b. Chicago, net cash)			
No. 1	30.00	@	—
No. 2	28.00	@	—

PHILADELPHIA

Paper
(F. o. b. Mill)

Bonds	.05	@	.40
Ledgers	.08	@	.40
Writings—			
Superfine	.12½	@	.18
Extra fine	.18	@	.22
Fine	.17	@	.26
Fine, No. 2	.15	@	.25
Fine, No. 3	.09	@	.20
Book, M. F.	.05	@	.07
Book, S. S. & C.	.05	@	.07½
Book, Coated	.09	@	.16
Coated Lithograph	.07	@	.11
Label	.07	@	.11
No. 1 Jute Manila	.07	@	.09
Manila Sul., No. 1	.04	@	.05½
Manila No. 2	.03	@	.04
No. 2 Kraft	.03¾	@	.05½
No. 1 Kraft	.05½	@	.06½
Common Bogus	.03½	@	.04
(Delivered Philadelphia)			
News Print Rolls	62.00	@	—
Straw Board	52.50	@	70.00
News Board	37.50	@	38.50
Chip Board	32.50	@	35.00
Wood Pulp Board	85.00	@	95.00
Binder Boards—			
No. 1, per ton	75.00		
No. 2, per ton	70.00		
Carload lots	68.00	@	70.00
Tarred Felts—			
Regular	55.50	@	57.00
Slaters (per roll)	.84	@	.94
Best Tarred, 1-ply (per roll)	1.95	@	2.10
Best Tarred, 2-ply (per roll)	1.50	@	1.60
Best Tarred, 3-ply	2.00	@	2.25

Domestic Rags (New)
(Price to Mill, f. o. b. Phila.)

Shirt Cuttings—			
New White, No. 1	.10½	@	.11
New White, No. 2	.07	@	.07½
Light Silesias	.07	@	.07½
Silesias, No. 1	.07	@	.09
Black Silesia, soft	.05	@	.05½
New Unbleached	.10½	@	.11
Washable, No. 1	.04½	@	.05
Blue Overall	.07½	@	.08
Cottons—According to grades—			
Washable, No. 2	.03	@	—
New Blue	.03	@	.03½
Fancy	.05¾	@	.06
New Black Soft	.03	@	.05¾
New Light Seconds	.02½	@	.03
New Dark Seconds	1.85	@	2.00
Khaki Cuttings—			
No. 1 O. D.	.05½	@	.05¾
No. 2 Mixed	.04½	@	.04¾
Corduroy	.03	@	.03½
New Canvas	.08½	@	.09
New Black Mixed	.03¾	@	.04½

Bagging
(F. o. b. Phila.)

Gunny, No. 1—			
Foreign	1.50	@	1.60
Domestic	1.75	@	—
Manila Rope	3.50	@	4.00
Sisal Rope	1.50	@	—
Mixed Rope	1.10	@	1.25
Scrap Burlaps—			
No. 1	1.50	@	1.60
No. 2	1.10	@	1.20
Wool Tares, heavy	3.00	@	—
Mixed Strings	1.15	@	1.25
No. 1, New Light Burlap	2.50	@	2.75
New Burlap Cuttings	2.00	@	2.25

Old Papers
(F. o. b. Phila.)

Shavings—			
No. 1 Hard White	2.65	@	2.75
No. 2 Hard White	2.30	@	2.50
No. 1 Soft White	2.25	@	2.50
No. 2 Soft White	1.40	@	1.60
No. 1 Mixed	1.40	@	1.50
No. 2 Mixed	.80	@	.90
Solid Ledger Stock	1.55	@	1.65
Writing Paper	1.00	@	1.15
No. 1 Books, heavy	1.15	@	1.20
No. 2 Books, light	.90	@	.100
No. 1 New Manila	2.30	@	2.50
No. 1 Old Manila	1.50	@	1.60
Print Manila	.40	@	.50
Container Manila	.30	@	.35
Old Kraft	1.40	@	1.50
Common Paper	.15	@	.20
No. 1 Mixed Paper	.15	@	.20
Straw Board, Chip	.35	@	.40
Binders Board, Chip	.35	@	.45
Overissue News	.40	@	.45
Old Newspaper	.25	@	.30

Domestic Rags (Old)

White, No. 1—			
Repacked	4.25	@	4.50
Miscellaneous	3.50	@	3.75
M. G.	7.00	@	—
Thirds and Blues—			
Repacked	2.00	@	2.25
Miscellaneous	1.60	@	1.80
Black Stockings (Export)	3.90	@	4.25
Roofing Stock—			
Foreign No. 1	1.65	@	1.75

BOSTON

Paper
(F. o. b. Mill)

Ledgers—			
Sulphite	.07½	@	.12½
Rag content	.15	@	.30
All rag	.38	@	.52½
Bonds—			
Sulphite	.06½	@	.11½
Rag content	.15	@	.30
All rag	.36½	@	.65
Writings	.06½	@	.20
Superfines	.11	@	.31
Book, Super	.06	@	.09
Book, M. F.	.05½	@	.08½
Book, Coated	.08½	@	.18
Coated Litho	.09	@	.12
Label	.09½	@	.15
Jute Manila No. 1	.11	@	.13
Manila, Sul. No. 1	.04¾	@	.06½
Manila, Sul. No. 2	.03¾	@	.04½
No. 1 Kraft	.06¼	@	.06½
No. 2 Kraft	.03¾	@	.05
Common Bogus	.02	@	.02¾
Delivered New England points			
News Print Rolls	61.50	@	—
Straw Boards, rolls .009			52.50
Straw Board in Sheets, basis 35s to 70s	54.50	@	55.00
Filled News Board	37.50	@	40.00
Chip Board	35.00	@	37.50
Single Manila Lined Chip	47.50	@	52.50
Single White, Patent Coated Newsboard Bender	65.00	@	80.00
Wood Pulp Board	75.00	@	80.00
Binder Boards	70.00	@	75.00
(F. o. b. Mill)			
Tarred Felts—			
Regular, carload lots	65.00	@	—

Old Papers
(F. o. b. Boston)

Shavings—			
No. 1 Hard White	3.25	@	3.75
No. 2 Hard White	2.60	@	2.90
No. 1 Soft White	2.40	@	2.50
No. 1 Mixed	1.10	@	1.15
No. 2 Mixed	.85	@	.90
Solid Ledger Stock	2.35	@	2.45
No. 1 Books, Heavy	1.50	@	1.55
No. 1 Books, Light	—	@	1.15
Manila Env. Cuttings	2.00	@	2.25
No. 1 Old Manila	.90	@	1.00
White Blank News	1.60	@	1.70
Old Kraft	—	@	1.50
Print Manila	.80	@	.90
No. 1 Mixed Paper	—	@	.27½
Overissue News	.45	@	.55
Old Newspapers	.45	@	.50
Box Board, Chip	.45	@	.50

Bagging
(F. o. b. Boston)

Gunny No. 1—			
Foreign	1.40	@	1.55
Manila Rope—			
Foreign	—	@	4.25
Domestic	—	@	4.50
Transmission Rope	—	@	2.75
Mixed Strings	.90	@	1.00
Jute Wool Strings	1.00	@	1.05
Jute Carpet Threads	1.05	@	1.15
Scrap Burlaps	—	@	1.35
Scrap Sisal	1.55	@	1.75
Scrap Sisal for shredding	1.75	@	2.00
Wool Tares, heavy	1.60	@	—
New Burlap Cutting	1.90	@	2.00
Australian Wool Pouches	3.00	@	3.10½

Domestic Rags (New)
(F. o. b. Boston)

Shirt Cuttings—			
New White No. 1	.08½	@	—
Silesias, No. 1	.06	@	.06¾
New Unbleached	.09¾	@	—
Fancy	.04	@	.04½
Washable	.04	@	.04½
Cottons—According to grades			
Blue Overalls	.06¼	@	.06¾
New Black, soft	.04	@	.04¾
Khaki Cuttings	.04	@	.04¾
O. D. Khaki	.05	@	—
Corduroy	.03	@	.03½
New Canvas	.08	@	.08½

Domestic Rags (Old)
(F. o. b. Boston)

Canvas	.04½	@	—
White No. 1—			
Repacked	4.75	@	5.00
Miscellaneous	5.00	@	—
White No. 2—			
Repacked	.04½	@	.05
Miscellaneous	.03½	@	.04
Twos and Blues	2.75	@	3.00
Thirds and Blues—			
Repacked	2.25	@	2.50
Miscellaneous	1.75	@	1.90
Black Stockings	—	@	4.00
Roofing Stock—			
No. 1	1.65	@	1.75
No. 2	1.40	@	1.50
No. 3	1.05	@	1.10
No. 4	1.10	@	1.15

Foreign Rags
(F. o. b. Boston)

Dark Cottons	1.45	@	1.50
New No. 1 Shirt Cuttings	9.00	@	9.50
Dutch Blues	2.00	@	2.10
Lace Curtains	4.75	@	5.00
New Checks & Blues	4.25	@	4.60
Old Fustians	1.90	@	2.00
Old Linsey Garments	1.80	@	1.85

TORONTO

Paper
(F. o. b. Mill)

Bond—			
No. 1 Sulphite	.12½	@	—
No. 2 Sulphite	.10¾	@	—
No. 1 Colored	.13½	@	—
No. 2 Colored	.11¾	@	—
Ledgers (sulphite)	—	@	—
Ledgers, No. 1	.36	@	—
Ledgers, No. 2	.27	@	—
Writing	.09½	@	.10
Book—			
No. 1 M. F. (carloads)	7.50	@	—
No. 2 M. F. (carloads)	7.25	@	—
No. 3 M. F. (carloads)	7.00	@	—
No. 1 S. C. (carloads)	8.00	@	—
No. 2 S. C. (carloads)	7.75	@	—
No. 3 S. C. (carloads)	7.50	@	—
No. 1 Coated and Litho	13.25	@	—
No. 2 Coated and Litho	12.25	@	—
No. 3 Coated and Litho	11.50	@	—
Coated tinted	14.50	@	—
Wrapping—			
Rag Brown	4.95	@	—
White Wrap	5.25	@	—
"B" Manila	5.80	@	—
No. 1 Manila	6.65	@	—
Fiber	6.65	@	—
Kraft, M. F.	7.00	@	—
White, No. 2	2.00	@	2.25

(Delivered Toronto)

News, per ton—			
Rolls (contract)	61.50	@	62.00
Sheets	67.00	@	—

Pulp
(F. o. b. Mill)

Ground Wood	31.00	@	32.00
Sulphite easy bleaching	60.00	@	—
Sulphite news grade	60.00	@	—
Sulphite, bleached	77.00	@	78.00
Sulphate	60.00	@	—

Old Waste Paper
(In carload lots, f. o. b. Toronto)

Shavings—			
White Env. Cut	3.00	@	—
Soft White Book Shavings	2.85	@	—
White Blk. News	1.60	@	—
Book and Ledger—			
Flat Magazine and Book Stock (old)	1.40	@	—
Light and Crumpled Book Stock	1.25	@	—
Ledgers and Writings	1.50	@	—
Solid Ledgers	1.50	@	—
Manilas—			
New Manila Cut	1.50	@	—
Printed Manilas	1.00	@	—
Kraft	2.25	@	—
News and Scrap—			
Strictly Overissue	.85	@	—
Strictly Folded	.85	@	—
No. 1 Mixed Paper	.65	@	—

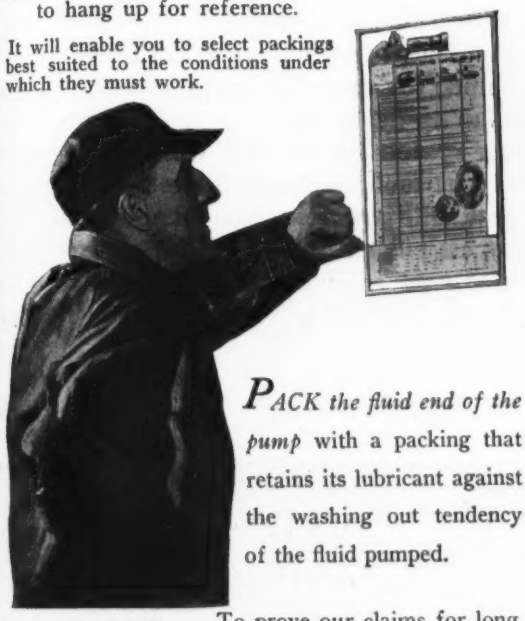
Domestic Rags
(Price to mills, f. o. b. Toronto)

No. 1 White Shirt Cuttings	.09¼	@	.10
Fancy Shirt Cuttings	.06	@	.06½

Select Packings Intelligently

Send for this "A.B.C." Chart
to hang up for reference.

It will enable you to select packings best suited to the conditions under which they must work.



PACK the fluid end of the pump with a packing that retains its lubricant against the washing out tendency of the fluid pumped.

For Steam (Superheat and Compressed Air

For Water (Hot and Cold) Calcium Brine, Centrifugal and Reciprocating Pumps.

For Caustic Soda, Acids, Alkalis.

For Gasoline, Naphtha and all Distillates of Petroleum.

To prove our claims for long satisfactory service, let us send you without charge or obligation working samples of these packings to test under your own conditions. State condition of service and size packing desired.

To avoid shaft friction, a packing must have sufficient lubricant, and the lubricant must be such as will resist the washing out tendency of the fluid it comes in contact with.

The packings listed on this chart are designed to give long, satisfactory service under indicated conditions.

GREENE, TWEED & CO.

Sole Manufacturers

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Position .....
Firm .....
Address 12

PAPER TRADE JOURNAL

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FIFTY-EIGHTH YEAR

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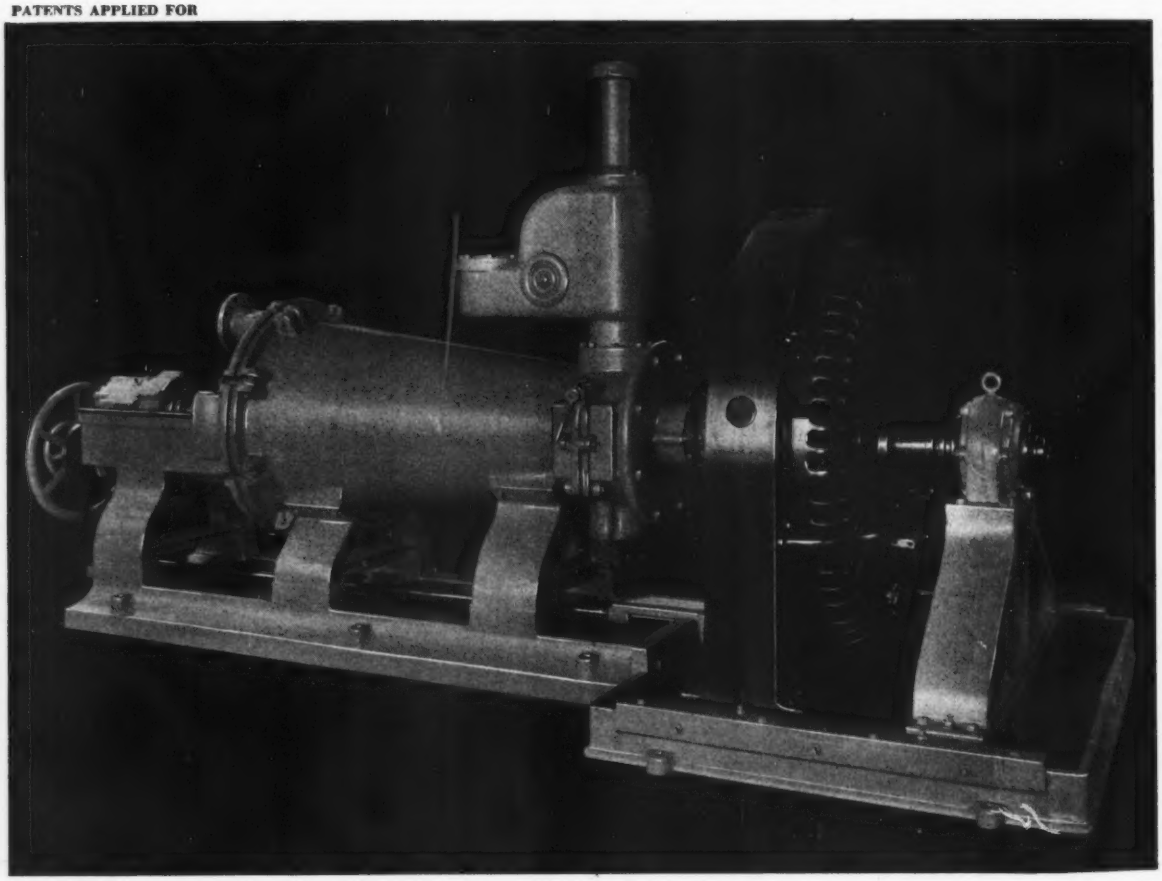

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